PHARMA MIRROR

Souvenir-2014

Crimson Association of Pharma Students (CAPS)

Crimson College of Technology (CCT)

Butwal-13, Devinagar, Rupandehi

Our Programs :

- Bachelor of Pharmaceutical Science (B. Parma)
- Bachelor of Computer Application (BCA)
- Bachelor of Business Administration (BBA)
- Bachelor of Computer Information System (BCIS)

क्रिमसन कलेज अफ टेक्नोलोजी

(पोखरा विश्वविद्यालयबाट सम्बन्धन प्राप्त)

बुटवल-१३, देवीनगर, रुपन्देही, फोन: ०७१-५४६४७५, फ्याक्स: ०७१-५४५८७५

E-mail : cct@nec.com.np, Website : www.cct.edu.np

The Oath of a Pharmacist

At this time, I vow to devote my professional life to the service of all humankind through the profession of pharmacy.

I will consider the welfare of humanity and relief of human suffering my primary concerns.

I will apply my knowledge, experience and skills to the best of my ability to assure optimal drug therapy outcomes for the patients I serve.

I will keep abreast of developments and maintain professional competency in my profession of pharmacy.

I will maintain the highest principles of moral, ethical and legal conduct.

I will embrace and advocate change in the profession of pharmacy that improves patient care.

I take these vows voluntarily with the full realization of the responsibility with which I am entrusted by the public.

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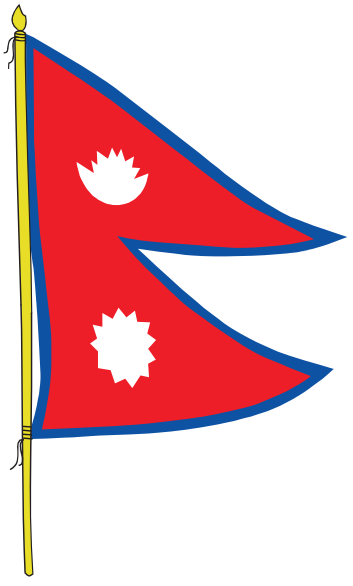

राष्ट्रिय गान

सयौँ थुङ्गा फूलका हामी एउटै माला नेपाली ।
सार्वभौम भई फैलिएका मेची-महाकाली ।।

प्रकृतिका कोटी-कोटी सम्पदाको आँचल ।
वीरहरूको रगतले स्वतन्त्र र अटल ।।

ज्ञानभूमि शान्तिभूमि तराई, पहाड, हिमाल ।
अखण्ड यो प्यारो हाम्रो मातृभूमि नेपाल ।।

बहुल जाति, भाषा, धर्म, संस्कृति छन् विशाल ।
अग्रगामी राष्ट्र हाम्रो जय ! जय ! नेपाल ।।

सरस्वती वन्दना ! !

या कुन्देन्दुतुषारहार धवला या शुभ्रवस्त्रावृता ।
या वीणा वरदण्डमण्डित कराः या श्वेत पम्मासना ।।
या ब्रह्माच्युतशंकरः प्रभृतिभिर्देवैः सदा वन्दिता ।
सा माम् पातु सरस्वती भगवती निःशेष जाड्यापहा ।।

नेपाल सरकार
शिक्षा मन्त्रालय
माननीय मन्त्रीज्यूको निजी सचिवालय
सिंहदरबार

फोन नं. : ४२००३५३
फ्याक्स नं.: ४२००३७३

मितिः २०७१/०४/११

शुभ–कामना

Crimson College of Technology का विद्यार्थीहरुको संगठन Crimson Association of Pharma Student ले ***Pharma Mirror*** प्रकाशन गर्न लागेको थाहा पाउँदा मलाई खुशी लागेको छ।

विज्ञान र प्रविधिको यूगमा परिवर्तनको संवाहक भन्नु नै शिक्षा हो त्यसमा पनि प्राविधिक शिक्षा वर्तमान अवस्थामा आवश्यकीय तथा रोजगारको सम्भावनालाई बढाउने कार्यमा अगाडी रहेको छ। आजका नेपाली युवाले आफूले हासिल गरेको ज्ञान तथा सीपलाई आफ्नै मातृभूमिमा लगानी गरे पक्कै पनि देशको भविश्य साथै नेपाली नागरिकको भविश्य उज्ज्वल रहने कुरामा दुईमत छैन्। Crimson Association का विद्यार्थीहरुको प्रयासमा पेसासंग सम्बन्धित विषय वस्तु तथा विज्ञहरुको अनुभव संगालेर प्रकाशन हुन लागेको यस स्मारिकाबाट Pharmacy विषय लगायत अन्य सम्बन्धित विषयमा जानकारी पाउन सहयोग बनोस् साथै औषधी विज्ञानको अध्ययनबाट देशलाई परनिर्भतामा कमी ल्याउन संगठनले अहम प्रयास गर्न सक्षम हुनेछ भन्ने कामना गर्दछु। साथै असल कार्यमा कर्मशील एवम् क्रियाशिल हुन प्रेरणा मिलोस् भन्ने शुभेच्छा व्यक्त गर्दछु।

अन्त्यमा, Association को गतिविधि एवम् अध्ययनका शिलशिलामा प्राप्त अनुभव तथा औषधि विज्ञानको क्षेत्रसँग सम्बन्धित लेख रचना सरोकारवाला सबैलाई उपयोगी हुने विश्वासका साथ प्रकाशनको निरन्तरताको लागि हार्दिक शुभकामना व्यक्त गर्दछु।

(चित्रलेखा यादव)
मन्त्री

GOVERNMENT OF NEPAL
MINISTRY OF HEALTH AND POPULATION
DEPARTMENT OF DRUG ADMINISTRATION
1748, Madan Bhandari Path-4
Bijuli Bazar, Kathmandu

Message to Pharma Mirror

I am immensely pleased to know that Crimson College (Pharmacy Department) is going to piblish ***Pharma Mirror***. I would like congratulate Crimson College for Pharmacists' effort.

National Health Policy (Draft) States that there should be at least Drug Inspector (Pharmacists) in each district and Pharmacists should be involved and appointed where medicines will be procured and distributed. Moreover, recently, Ministry of Health and Population approved a guideline for operating pharmacy in each private and public hospital. It seems that Government of Nepal will trying to involve Pharmacists wherever medicines activities are involved. In order to achieve Government policy, Pharmacists also come forward dynamically with good knowledge in medicine and Good Pharmacy Practices. I hope that this publication will be enchance Pharmacists's knowledge attitude and practice gained from the college.

I hope that Pharmacists, know as expert in medicine, gained knowledge from college will make useful articles in this publication so that community and patients will be disseminated about Rational use of Medicines. As a result, Nepalese population will use medicines properly.

Department of Drug Administration is ever ready to extend full co-operation for the welfare of Pharmacists.

I wish this publication a grand success.

.....

Gajendra Bahadur Bhuju
Director General
Department of Drug Administration
Ministry of Health and Population
Government of Nepal

P.O. Box : 10038, Phone : (+977-1) 4780227, 4780432, Fax : (+977-1) 4780572, E-mail : druginfo@dda.gov.np, Website : www. dda.gov.np

नेपाल फार्मेसी परिषद्

काठमाडौं, नेपाल

मितिः २०७१/०४/१४

शुभ–कामना

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विज्ञान र प्रविधिको यूगमा परिवर्तनको संवाहक भन्नु नै शिक्षाको हो।

दक्ष र गुणस्तरीय प्राविधिक जनशक्ति उत्पादन गर्दै आएको Crimson College of Technology मा अध्ययनरत विद्यार्थीहरुले विभिद क्षेत्रको नविनतम खोज, अनुसन्धान, ज्ञान र सिपलाई समेटेर तयार गर्न लागेको सृजनात्मक कृति ***Pharma Mirror*** प्रकाशन हुन गईरहेकोमा खुशी व्यक्त गर्दै आउँदा दिनहरुमा पनि त्यस संस्थाको गतिविधि एवं अध्ययनका शिलशिलामा प्राप्त अनुभव तथा औषधि विज्ञानको क्षेत्रसँग सम्बन्धित लेख रचना सरोकारवाला सबैलाई उपयोगी हुने विश्वासका साथ प्रकाशनको निरन्तरताको लागि हार्दिक शुभकामना व्यक्त गर्दछु।

विजय यादव
रजिष्ट्रार

परिषद् सचिवालयः औषधि व्यवस्था विभाग, बिजुली बजार, काठमाडौं, फोन नं.: ४७८०७४७, फ्याक्सः ९७७-१-४७८०५७२
इमेल : npc@nepalpharmacycouncil.org.np, **वेभसाइटः** www.nepalpharmacycouncil.org.np

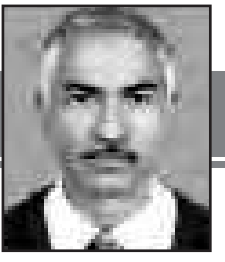
पोखरा विश्वविद्यालय

विज्ञान तथा प्रविधि संकाय

डीनको कार्यालय

पोखरा, कास्की

शुभ–कामना



Crimson College of Technology अन्तरगत रहेको विद्यार्थी संगठन CAPS (Crimson Association of Pharma Students) ले Pharma Mirror नामक स्मारिका प्रकाशन गरी सम्पूर्ण विद्यार्थी तथा कलेज परिवारको गरिमा उच्च राख्ने ध्ययले प्रकाशन गर्न लागेको पावन अवसरमा यस स्मारिकाले सम्पूर्ण विद्यार्थी एवं कलेजको उत्तरोत्तर प्रगति गर्न सकोस् भन्ने शुभकामना व्यक्त गर्दछु।

डा. सुरेश प्रसाद बास्तोला
डीन
विज्ञान तथा प्रविधि संकाय
पोखरा विश्वविद्यालय

Crimson College of Technology
(Pokhara University)

Devinagar, Butwal-13, Rupandehi, Lumbini, Nepal
Tel : 00977-71-410380, 410479
Fax : 00977-71-410379
e-mail : cct@nec.com.np
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शुभ–कामना

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लक्ष्मण ज्ञवाली
अध्यक्ष

Education for Better Life.

Crimson College of Technology
(Pokhara University)

Devinagar, Butwal-13, Rupandehi, Lumbini, Nepal
Tel : 00977-71-410380, 410479
Fax : 00977-71-410379
e-mail : cct@nec.com.np
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शुभ–कामना

Crimson College of Technology अन्तरगत रहेको Pharmacy विद्यार्थीहरुको साझा संगठन Crimson Association of Pharma Students (CAPS) ले इतिहास मै पहिलो पटक Pharma Mirror नामक स्मारिका प्रकाशन गर्न लागेको भन्ने सुन्दा म अत्यन्तै हर्षित भएको छु। विभिन्न व्यक्तित्वहरुका सृजना तथा लेखहरुलाई एउटै पुस्तकमा पढ्न पाउनु जो कोहीको लागि अत्यन्तै खुशीको कुरा हो। यस्ता कार्यहरुले सम्पूर्ण कलेज परिवार मात्र नभई भविष्यमा अनुसन्धान कार्यमा रुची राख्ने जो कोहीको लागिपनि यो स्मारिका उपयोगी हुन सकोस भन्दै यस सोभनीय कार्यलाई म हृदयदेखि नै सह्याहानागर्दै यस कार्यको पूर्ण सफलताको लागि हार्दीक शुभकामना व्यक्त गर्न चाहान्छु।

देबीप्रसाद भण्डारी
सस्थापक प्रिन्सिपल

Education for Better Life.

Crimson College of Technology
(Pokhara University)

Devinagar, Butwal-13, Rupandehi, Lumbini, Nepal
Tel : 00977-71-410380, 410479
Fax : 00977-71-410379
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मुकेशकुमार चौधरी
कार्यक्रम संयोजक
(फार्मेसी संकाय)

Education for Better Life.

Crimson Association of Pharma Students
Crimson College of Technology
Butwal-13, Devinagar, Rupandehi, Nepal
Tel: +977-071546479, E-mail: capsjournal121@gmail.com

अध्यक्षको कलमबाट.....

समाजलाई परिवर्तन गर्नुछ भने विचारको विउ यस समाजमा छर्न जरुरी छ। यस्ता लेख रचना समेटिएका बहु विचारको प्रतिनिधित्व यस्ता पुस्तक प्रकाशनले गर्नेहुँदा Crimsom Association of Pharma Students (CAPS) ले **PHARMA MIRROR** नामक यो स्मारिका प्रकाशन गर्ने जमर्को गरेको हो।

यो सृष्टी एक ऐना हो यसमा निहित सम्पूर्ण प्राणि प्रति हाम्रो सकारात्मक दृष्टीकोण हुनुपर्छ। हामीले राम्रो सोचेमा राम्रै प्रतिक्रिया पाउँछौं त नराम्रो सोच्दा नराम्रै प्रतिक्रिया पाउँछौं किनकि ऐनाले त जस्तो छ त्यस्तै देखाउँछ।

त्यसैले यो एक सकारात्मक चिन्तनको भण्डार समाज परिवर्तनको एक संवाहक बन्न सक्छ। स्मारिका प्रकाशनमा थुप्रै तितामिठा अनुभव बटुल्न पाइयो यो अवसर प्रदान गर्नुहुने सम्पूर्ण ज्ञात अज्ञात, सहयोगी हात प्रति आभार प्रकाट गर्दछु।

Crimson College of Technology को इतिहासमा फार्मेसी विद्यार्थी समूह (CAPS) ले प्रकाशन गरेको यो **PHARMA MIRROR** एक निरन्तर प्रकाशनको मार्गदर्शन बन्नेमा म विश्वस्त छु।

अन्त्यमा यस **PHARMA MIRROR** प्रकाशनमा सहयोग गर्नुहुने सल्लाहकार, CAPS प्रतिनिधि, सम्पूर्ण विद्यार्थी, शिक्षक, CCT College, विज्ञापनदाता तथा अन्य सम्पूर्ण सहयोगि हातहरुमा हार्दिक कृतज्ञता टक्राउदै आगामी दिनमा पनि निरन्तरताको अपेक्षा गर्दछु।

दीर्घराज जोशी
अध्यक्ष
CAPS

Crimson Association of Pharma Students (CAPS)
एक परिचय

सामुदायिक सचेतना फैलाउँदै, बिरामीहरुलाई औषधीको विवेकपूर्ण प्रयोग सम्बन्धी जानकारी प्रदान गर्नुका साथै Pharmacist को भूमिका उजागर गर्ने र पेशागत तथा फार्मेसी अध्ययनरत विद्यार्थीको हकहितका निम्ति कार्य गर्ने हेतुले पोखरा विश्वविद्यालय अन्तरगर्त रहेको Crimson College of Technology (CCT) मा B.Pharmacy अध्ययनरत सम्पूर्ण विद्यार्थीहरुको साझा एक गैर नाफा मूलक एवम् गैर राजनीतिक विशुद्ध पेशागत संगठन Crimson Association of Pharma Students (CAPS) हो।

संघका निम्न उद्देश्य सहित २०१० सालमा यसको स्थापना गरिएको हो।

- फार्मेसी अध्ययनरत विद्यार्थी तथा पेशागत हकहितका निम्ति क्याम्पस तथा अन्य संघ संस्थासंग समन्वय गरी कार्य गर्ने।
- औषधीको विवेकपूर्ण प्रयोगको लागि सामुदायिक सचेतना फैलाउने र यस सम्बन्धि विशेषज्ञको भूमिका निर्वाह गर्ने।
- फार्मासिष्टको भूमिकालाई स्थानिय जनस्वास्थ्यसम्म पुऱ्याउने र स्वास्थ्य क्षेत्रमा फार्मसिष्टको भूमिकालाई प्रष्ट पार्ने।
- फार्मेसीसंग सम्बन्धीत राष्ट्रिय तथा अन्तर्राष्ट्रिय संघसंस्थासंग समन्वय गरिकार्य गर्ने।
- स्थानिय जडिबुटीको संरक्षण, सम्बर्द्धन र समुचित प्रयोगमा भूमिका निर्वाह गर्ने।
- विद्यार्थीको विकाशका निम्ति सभा, सम्मेलन, सेमिनार, गोष्ठी, तालिम आदि सञ्चालन गर्ने।

हालसम्मका अध्यक्षहरु तथा कार्यहरु

- संस्थापक अध्क्षः गोबिन्द तिवारी, **कार्य** : निःशुल्क स्वास्थ्य शिविर संचालनः स्थानः कान्छी बजार सेमरा, रुपन्देही
- २०१२-२०१३ : उमंग घिमिरे, **कार्यः** सालझण्डी, रुपन्देीमा निःशुल्क स्वास्थ्य शिविर संचालन, CAPS को नयाँ भेष्ट बनाइयो।
- २०१३-२०१४: घनश्याम पाण्डे, **कार्यः** मोतिपूर, रुपन्देहीमा निःशुल्क स्वास्थ्य शिविर संचालन, विविध सम्मेलनमा सहभागी तथा तालिम संचालन world pharmacist day कार्यक्रम, Buddha was born in Nepal Rally.
- २०१४-२०१५: वर्तमान कार्यवाहक अध्यक्ष दीर्घराज जोशी

२०१४-२०१५ को कार्यकालमा सम्पन्न भैसकेका कार्यहरु

- २०७१।०१।१३ हरेक CAPS Members को Digital ID Card बनाईयो।
- Pharma Information Sharing CAPS Notice Board बनाई सम्पूर्ण शिक्षक तथा विद्यार्थीले आफ्नो लेख रचना तथा ज्ञानबर्द्धक सूचना Sharing गर्ने वातावरण बनाईयो।
- २०७१।०१।१० CITES मा सुचिकृति १४ वटा नेपालका दुर्लभ, संरक्षणको जोखिममा रहेको Medicinal Plants को Photo तथा Detail Information सहितको Big Flax Board बनाईयो।
- २०७१।०१।२१: लुम्बिनी अञ्चल अस्पतालका १३५ जना बिरामीलाई फलफुल र जुसः औषधीको विवेकपूर्ण प्रयोग गर्ने सल्लाह दिदै वितरण गरियो। सोही दिन सुस्त मनस्थिति बालमन्दिरका ३० जना बालबालिकालाई पनि फलफुल बितरण गरियो।
- २०७१।०१।२७: औषधीको रुपमा अत्यधिक उपयोगी Herbal Plant २० वटा गमलामा रोपियो।
- २०७१।०१।२९: ८० वटा डब्बामा Crude drugs with detail information सहित Pharmacognosy Lab मा राखियो।
- २०७१।०१।३१: बुद्धजयन्तीको अवसरमा CAPS टोली बुद्धको जन्मस्थल लुम्बिनी भ्रमण। त्यहाँ प्रधानमन्त्री शुसिल कोइरालासंग भवन शिलन्यास कार्यक्रममा सहभागी तथा UK मा Community Pharmacy मा कार्यरत संग त्यहाँ Pharmacy पेशको बारेमा जानकारी।
- २०७१।०२।०७: तत्कालिन स्वास्थ्य सचिवले ओडिन्टेसन खुलाउने भन्दै दिएको अभिव्यक्ति प्रति गम्भिर ध्यानाकर्षण सहित यसको विरोधमा हस्ताक्षर सहितको ज्ञापनपत्र DDA का प्रमुख, स्वास्थ्य मन्त्री र प्रधानमन्त्रीलाई बुझाईयो।
- २०७१।०२।०९: Pharmacy सम्बन्धी पुस्तक, National Formulary अन्य बुलेटिन लाइब्रेरीलाई प्रदान गरियो।
- २०७१।२।१६: रक्तदान कार्यक्रम सम्पन्न।
- **Pharma Mirror** प्रकाशन हजुरको हातमा।
- २०७१। । : ३० वटा Medicinal Plant को बारेमा Detail Information सहित ब्यानर तयार पारी टाँगियो।

प्रकाशन समिति

संरक्षक : दैबी प्रसाद भण्डारी
प्रधान सम्पादक : सुबोध चटौत
संयोजक तथा सम्पादन : दीर्घ राज जोशी
प्रविन बि.क.
सुभेन्द्र प्रसाद यादव
प्रमुख सल्लाहकार : पुनाराम घिमिरे
विशेष सल्लाहकार : अचुत पन्त
दीपक ढकाल
मुकेश कुमार चौधरी
सल्लाहकार : राम प्र. भुसाल
असगर अलि मिकरानी
कमल बराल
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गोपाल झवाली
बलराम न्यौपाने
सुरेश प्रजापती
विशेष सहयोगी : जसु पुन
दुर्गा पाण्डे
निलकण्ठ औस्थी
सहयोगी : इभा अर्याल
विकाश शाह
खेम तिवारी
सुरेन्द्र प्रसाद गुप्ता
मुस्कान कार्की
सुदन पन्त
महेन्द्र भुषाल
नीता श्रेष्ठ
सदस्यहरू : आशिस भण्डारी
चिरञ्जीवी झवाली

डिज़ाईन/लेआउटः पारस वर्मा, ५८४७२६६७६८

मुद्रणः आइडिया डिज़ाइनर्स/अफसेट प्रेस, बुटवल, ०७१-५४५४६३, ५५०२५३

सम्पादकीय.....

फार्मेसी अध्ययनरत विद्यार्थी तथा पेशागत हकहितका निम्ति कार्य गर्ने विशुद्ध पेशागत संगठन Crimson Association of Pharma Students (CAPS) द्वारा ***Pharma Mirror*** पत्रिकालाई तपाई माझ पस्कन पाउदा हामी अत्यन्त हर्षित एवम् गौरवान्वित भएका छौं।

मानिस एक विवेकशील सामाजिक प्राणी हो, उसमा थुप्रै अन्तरनिर्हित प्रतिभाहरु लुकेर रहेका हुन्छन्। त्यस्ता भावनात्मक वैचारिक प्रतिभा देखाउने ठाउँ यो Pharma Mirror बनेको छ। स्वास्थ्यसंग सम्बन्धित विविध लेख रचना विशेष महत्व दिदै अन्य लेख रचना पनि समेट्ने प्रयास गरेका छौं।

आदरणीय पाठकबृन्द ! यसमा भएका कमि कमजोरी औल्याई भविष्यमा सुधार्ने मौका प्रदान गरिदिनुहोला। तपाईको अमुल्य सहयोगको विशेष महत्व रहनेछ।

यस ***Pharma Mirrior*** प्रकाशनमा सहयोग गर्नुहुने सम्पूर्ण महानुभाव प्रति हार्दिक धन्यवाद् ज्ञापन गर्दछौं। साथै स्मारीका प्रकाशन गर्ने क्रममा अहोरात्र खटिनु हुने प्रशंस्य सहकर्मी मित्रहरु तथा कम्प्युटर डिजाइन, सेटिङ्ग र मुद्रण गरी सहयोग गर्नुहुने आईडिया डिजाईनर्स/अफसेट प्रेस परिवार र राय सुझाव दिई मार्गदशन गर्ने महानुभावहरु ज्यू प्रति हार्दिक कृतज्ञता ज्ञापन गर्दछौं।

अन्तमा, यस ***Pharma Mirror*** प्रकाशनले यस कलेजमा अध्ययनरत विद्यार्थी, शिक्षक एवं कर्मचारी तथा सम्पूर्ण पाठकबृन्दहरुको साहित्यिक, मनोबैज्ञानिक, सामाजिक, नैतिक एवम् संवेगात्मक विकास मात्र नभई पाठकहरुको लेखनप्रतिभाको विकास हुने कुरामा हामी आशावादी छौं। Pharma Mirror आगामी बर्षमा पनि निरन्तर प्रकाशन हुने आशाका साथ तपाईहरुको साथ र सहयोगको अपेक्षा गर्दै २०७१ सालको दशै तिहारको पुनित अवसरमा समस्त पाठक वर्गहरुलाई प्रकाशन/सम्पादन मण्डलको तर्फबाट सुखद एवम् उज्जवल भविष्यको हार्दिक मंगलमय शुभकामना व्यक्त गर्दछौं।

Committee Members of Crimson Association of Pharma Students (CAPS)

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(Patron)

Asgar Ali Mikrani
(Advisor)

Ram Pd. Bhusal
(Advisor)

Anil Kumar Sah
(Advisor)

Mohan Chaudhary
(Advisor)

Kamal Baral
(Advisor)

Subodh Chataut
(Advisor)

Kishor Parajuli
(Advisor)

Bishal Baskota
(Advisor)

Ramesh K.C.
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तस्वीर आफै बोल्छ...

तस्वीर आफै बोल्छ...

Contents

S.N.	Topic	Name	Page
1.	Evolution and Promising Sign of	Phr. Ram Pd. Bhusal	1
2.	Carrers in Pharmacy	Phr. Mukesh Kumar Chaudhary	3
3.	Role of Pharmacist in Counseling.....	Phr. Anil Kumar Sah	7
4.	Medication Counseling in Nepal	Phr. Om Darlami	11
5.	Practice of Self Medication.....	Phr. Kamal Baral	15
6.	Acorus Calamus (Bojho): Medicinal	Sundar Bashyal	17
7.	Alcohol and Medication Interactions	Phr. Asgar Ali Mikrani	19
8.	Lifestyle Drugs	Subodh Chataut	25
9.	Organic Chemistry in Pharmacy	Basanta Khanal	27
10.	What is Sickle Cell Anaemia ?	Muna Neupane	29
11.	Ebola Hemorrhagic Fever	Bal Ram Neupane	34
12.	Role of Medicinal Chemist in	Arjun Bhandari	38
13.	A Critical Evaluation of the	Phr. Atisammodavardhana Kaundinnyayana	40
14.	Gene Therapy for HIV-1	Dirgha Raj Joshi	44
15.	Medication Errors and its	Suvendra pd. Yadav	48
16.	Dental Caries: The most	Dr. Sandesh Kumar Jha	51
17.	Drug Discovery by Forward	Nilkantha Wosti	52
18.	Pharmacy and Pharmacist	Krishna Pd. Paudel	53
19.	Meditation: The future medication	Laxmi Shrestha	54
20.	Osmotic Pump Drug Delivery- A novel..	Shashi chataut	55
21.	एभिएन इन्फ्लूएन्जा। फाउल प्लेग.....	Dr. Prakash Kandel	57
22.	रेविज रोगले जनस्वास्थ्य तथा पशुहरुमा	Dr. Birendra Shrestha	60
23.	Smoking Lowers The Bitter	Prawin Kumar B.K	62
24.	The Role of Dental Plaque.....	Sushma Pariyar	64
25.	गुणस्तरको पर्याय बनोस्	Kiran Dhakal	66
26.	Nine Strange Diseases	Sarmila Gyawali	68
27.	माछा : एक महत्पूर्ण खानाको परिकार	Bidhyasagar Jha	70
28.	Computer Vision Syndrome.....	Dr. Prabhat G.C.	72
29.	Supraventricular Tachycardia	Bikash Kumar Sah	74

Contents

S.N.	Topic	Name	Page
30.	10 Crazy Drugs you don't Know	Salikram Paudel	75
31.	Beign CCTian.....	Surendra Pd. Gupta	76
32.	Medicinal Plants and	Ankur Srivastav	77
33.	Love and Attraction Facts	Nisha Adhikari	78
34.	Some most interesting Facts...	Keshav Ojha	79
35.	Amazing Facts About The	Laxmi Gupta	81
36.	Louse-Borne Relapsing Fever..	Aashish Bhandary	83
37.	Facts About teens and Drugs.....	Basanta Basyal	84
38.	Jaundice	Khem Tiwari	85
39.	Diabetic Neuropathies	Roshan Gyawali	86
40.	Cloud Computing	Gopal Gyawali	87
41.	Self Confidence-A Key	Dipak Dhakal	89
42.	Micro Finance: Current	Achyut Pant	91
43.	Projection of 'Self' in ...	Puna Ram Ghimire	96
44.	Acne	Sadhana Khanal	98
45.	Motivation for Goal ...	Brijesh Muraw	99
46.	अजै निमूल हुन सकेन महिला	Saraswoti Joshi	101
47.	Cyber Law and Cyber Ethics	Bikash Khanal	102
48.	लाईब्रेरीको भूमिका	Subhadra Atreya	103
49.	Computer Technology in ...	Pradeep Karki	104
50.	गजल	Sabu Chhetri	105
51.	देश विकासमा युवा शक्तिको	Chhit Raj Neupane	106
52.	B.Sc. CSIT	Hari Shrestha	107
53.	भावना	Pravin Shrestha	107
54.	परिवर्तनशिल समाजका नारीहरु	Sita Joshi	108
55.	कविता	Gobinda Aryal	108
56.	३२ लक्षण युक्त के-के पर्दछन् ?	Yubaraj Regmi	109
57.	गजल	Sushila Khatri	109
58.	Mathematics and Phychology	Ramesh K.C.	110

Evolution and Promising Sign of Pharmaceutical Field in Nepal

Phr. Ram Prasad Bhusal....✍
Lecture, Dept. of Pharmacy, CCT

In ancient period, health care system of Nepal was based on the medical providers and faith healers who used to practice Ayurvedic and Tibetan medicine. It has been recorded that Ayurvedic hospital existed in Nepal during 605-620 AD. Western allopathic medicine was first introduced in Nepal by Christian missionaries during the medieval Malla period (750-1750 AD). Retail pharmacy practice was initiated by Chandrasale Dispensary, Bir Hospital in 1917 AD which was beginning of pharmaceutical practice. The concept of hospital pharmacy was introduced by United Mission to Nepal at the Shanta Bhawan hospital (present Patan hospital) and subsequently at Tansen hospital in 1954; however concept was confined to limit.

In real, Pharmacy Profession in Nepal has history of only about 45 years back with the establishment of pharmaceutical institution and pharmaceutical industry. The first pharmaceutical industry from private unit sector was to be built in the name of Nepal Pharmaceutical Works at Godavari in 1969 but it could not run due to site problem. Chemidrug Industries Pvt. Ltd. is the first private pharmaceutical industry which was successful and started production in 1970 AD. In the government sector, Royal Drug Research Laboratory (RDRL) was established under Department in 1964. After four years of product development, production division was established in 1968 under RDRL to manufacture allopathic medicines. Then production division was converted to Royal Drugs Limited in 1972 under the Ministry of Forestry. The idea of Pharmaceutical education was introduced in Nepal in 1970s with initiation of intermediate pharmacy course by Tribhuvan University. The concept of higher education on pharmacy was only evolved in mid 90s as Bachelor of Pharmacy was started in 1994 by Kathmandu University, which was followed by Tribhuvan University (2000), Pokhara University (2001), Purbanchal University (2005). The concept of certificate level pharmacy was

evolved again and started by CTEVT in 2004. Moreover, Master in Pharmacy course was launched in 2000 by Kathmandu University which was followed by Pokhara University and they are running successfully. Ultimately, PhD course was also started by Kathmandu University in 2004. In addition, Kathmandu University started a three-year post-baccalaureate Doctor of Pharmacy (PharmD) program in 2010.

Regarding the control of pharmacy profession, Government promulgated the Drug Act in 1978 under which Department of Drug Administration (DDA) was established in 1979. In the mean time, professional associations introduced with Nepal Pharmaceutical Association (1971), Nepal Graduate Pharmacists' Association of Nepal (1972) and Nepal Chemists and Druggists Association (1973). Nepal Pharmacy Council, a regulatory body was established in 2000 AD for purpose of regulating all pharmacy related activities.

Pharmacy profession does not have long history however concept is gradually introducing and if we look at present scenario there are more than 1000 licensed pharmacists with yearly output of nearly 750 bachelor graduates form 19 pharmacy colleges of Nepal and some institutions of neighboring countries. Moreover, about 1560 assistant pharmacists are coming to health field every year for propose of running retail pharmacy in optimum standard. There are more than 13,000 licensed retail pharmacies, and also number are increasing in fast rate, most of which are running by normal trained people but trend is gradually changing and pharmacy professionals are increasing interest towards it. Mainly, assistant pharmacists are growing in number for running new retail pharmacy. Currently, 50 national pharmaceutical industries are producing medicines that can fulfill only half of demand but there is lot of encouragement for new establishment. About the hospital pharmacy practice, only few medical colleges are trying for proper practice, but many hospitals are showing interest towards it and in coming days significant number of hospital will have it. Regarding the pharmaceutical care, the concept is not well established in Nepal, but may pharmacist are gaining knowledge on it by higher education, which is promising sign to be introduced in Nepal.

In conclusion, on comparison to developed countries, the pharmacy profession in Nepal is in preliminary phase; however it looks promising to reach optimum level and have good pharmaceutical practice in future.

❍❍❍

CAREERS IN PHARMACY

Phr. Mukesh Kumar Chaudhary....✍
Coordinator, Department of Pharmacy, CCT

INTRODUCTION

The Nepal Pharmacy Council NPC is the supreme body governing the regulation of pharmacy in Nepal. It is imperative to know about various bodies governing and regulating the pharmacy profession in Nepal. Two of such bodies include: -

1. Nepal Pharmacy Council NPC .
2. Nepal Government Ministry of Health Department of Drug Administration .

THE FUTURE

"***There is no future in any profession.***
The future is in the man who holds it"

The future of pharmaceutical industry in Nepal seems to be bright. It will continue to discover, develop and market life saving medicines there by improving the quality of life. With the entry of large national and some multinational companies, the scenario will change further.

The pharmaceutical industry has several strength, which will move the industry into 21st century. One of this is the industry's constantly growing science base, notably in biotechnology. The second strength of industry is how it affects the health of the people being producing cost effective, optimal therapeutic molecules. These efforts of pharmaceutical industry can help lowering health care cost. The third strength of pharmaceutical industry is as vital national resource.

PHARMACY CURRICULUM

The various courses covered under pharmacy curriculum include:

1. Diploma in Pharmacy (D. Pharm.)
2. Bachelor of Pharmacy (B. Pharm.)
3. Master of Pharmacy (M. Pharm.)
4. Doctor of Pharmacy (Pharm. D.)
5. Doctorate in Philosophy (Ph. D.)

DIPLOMA IN PHARMACY

D. PHARM.

" ***Some people have to carry their diplomas with***
them to prove that they have a college education"

In Nepal the minimum qualification for practicing pharmacy is Diploma in Pharmacy.

Many colleges offer the Diploma in Pharmacy course. The Diploma in Pharmacy is a three-year course. The minimum qualification for getting admission is:

1. *SLC with minimum 45 %.*

The reservation for Dalit, Durgam, Janjati, Madhesi, Physically handicapped, etc is as per rules of CTEVT. The admission to diploma in pharmacy course is through merit, i.e. marks obtained in entrance examination.

Choice or way after passing diploma in Pharmacy Examination

1. Hospital Pharmacist.
2. Retail Pharmacist.
3. Wholesale dealer.
4. Assistant Pharmacist for Manufacturing and Q.C. in Industry.
5. Medical Representative

Further Studies: After completing D. Pharm one can go B. Pharm

BACHELOR OF PHARMACY

B. PHARM.

"Going to college won't guarantee you a job. But it will give you four years to worry about getting one."

The B. Pharmacy is a four-year course. The minimum requirement for getting admission is:

1. 10+2 with science minimum 50 %
2. Minimum 17 years of age.

The admission to B. Pharm course is both on the basis of merit and entrance examination depending upon the institution or university.

Choice or way after passing B. Pharm Examination:

(In addition to those mentioned For D. Pharm)

1. Manufacturing Pharmacist self or employed.
2. Analytical Pharmacist.
3. Drug Inspector.
4. Drug analyst.
5. Marketing Executive

Further studies: after passing B. Pharm one can go for;

1. M. Pharm
2. MBA
3. GRE/GMAT

MASTER OF PHARMACY

M. PHARM

"Scientist shows us how to sail under the North Pole and fly over the moon, but you are on your own cross the streent."

Master of Pharmacy is a 2 yrs course. A candidate seeking admission to M. Pharm must have passed B. Pharm examination. For getting admission to M. Pharm course in most of the university one has to pass the entrance examination

conducted by the university. The M. Pharm is a specialization course with following branches:

1. Pharmaceutics
2. Pharmacology
3. Pharmacognosy & Phytochemistry
4. Quality assurance
5. Pharmaceutical analysis
6. Hospital Pharmacy
7. Pharmacy Practice/Clinical Pharmacy
8. Medicinal Chemistry/ Pharmaceutical chemistry
9. Pharmaceutical Biotechnology
10. Drug Regulatory Affairs

Choice or way after passing M. Pharm Examination:

(In addition to those mentioned For D. Pharm and B. Pharm)

1. Manufacturing Executive
2. Quality Control Executive
3. Product Development Executive
4. R and D Scientist
5. Teacher in Pharmacy

Further studies: After completing M. Pharm one can go for:

1. Ph. D.
2. GRE

PHARMACY CAREERS

"Keep your head and your heart in the right direction and you will not have to worry about your feet"

The word Pharmacy is derived from the Greek word Pharmakon, meaning medicine or drug. A pharmacist is the person who is expert on drugs.

The physician, surgeon, dentist and other medical practitioner generally prescribe drugs and primarily are interested in the effect of those drugs on patients with reference to their therapeutic value and toxicology. The nurse administers the drug and is concerned with route of administration and toxicological effects but pharmacist is the only expert on drugs. It is his/ her legally granted responsibility to handle the drugs. It is his/ her professional responsibility to know about those drugs.

The various career options after studying pharmacy can be broadly classified as: -

1. Retail Pharmacy
2. Wholesale Pharmacy
3. Hospital Pharmacy
4. Industrial Pharmacy
5. Drug Regulatory Authorities, Drug inspector and Drug analyzer
6. Pharmaceutical Education

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SUPPLIERS OF MEDICINE, CHEMICAL, SURGICAL & HOSPITAL EQUIPMENTS ETC.

Role of Pharmacist in Counseling of Aerosol in Asthmatic Patient

Phr. Anil Kumar Sah....✍
Lecturer, Department of Pharmacy, CCT

Introduction:

The word asthma is derived from a Greek word meaning difficulty in breathing. Asthma is an episodic and chronic disease of the airways, marked by intermittent exacerbations of acute disease. It is an obstructive lung disease and an inflammatory disease. The obstructive component is characterized by bronchocostriction whereas the inflammatory component is marked by airway edema, goblet-cell hyperplasia, mucus secretion and infiltration by a wide variety of immune and inflammatory cells that release a number of associated cytokines.

What are the trigger agents of asthma?

There are several trigger agents that can cause asthma. These are:

Tobacco Smoke

- Smoke, strong odors and sprays inside homes and buildings.

Air Pollution

- Like cars, trucks and campfire smoke.

Dust Mites

- Dust mites can be found in blankets, mattresses, pillows, rugs, curtains, soft furniture, stuffed animals and house dust.

Pets

- Animal dander
- Saliva of dogs, cats or rabbits
- fine hair and dung of birds

Pests

- Cockroaches, Mice and Rats dung.

Outdoor Mold and Pollen

- Pollens of mold, tree, grass and weed.

Colds

Exercise and Sports

Weather Conditions

- Cold and Dry or Hot and Humid

Emotions

- Emotions like being angry and laughing or crying hard.

Signs and symptoms of asthma.

The most common signs and symptoms of asthma are;

- Coughing ,especially at night
- Wheezing
- Shortness of breath and
- Chest tightness

What are the medications used in asthma ?

The most common medication used in asthma are,

Beta 2 agonist (Salbutamol, Salmeterol, Formoterol): These drugs are available in the form Meter dose inhaler and tablet form. It causes the widening of the airways

Theophylline: This drug is available in the form of tablet. It causes the widening of the airways.

Ipratropium bromide, Tiotropium bromide: These drugs are available in the form of meter dose inhaler. It causes the widening of the airways.

Sodium cromoglycate: This drug is available in the form of meter dose inhaler.

Zafirlukast and Montelukast: These drugs reduce the inflammation of airways.

Corticosteroids (Beclomethsone, Budesonide, Prednisolone):

These drugs are available in the form of meter dose inhaler or oral form (Prednisolone). These drugs are used for long term disease control. It reduces the inflammation of airways.

Role of Pharmacist

The Meter dose inhaler provides many advantages over the oral and injectable routes. The major advantage is the direct delivery of medications in much smaller effective doses compared to injections and tablets and hence more safe.

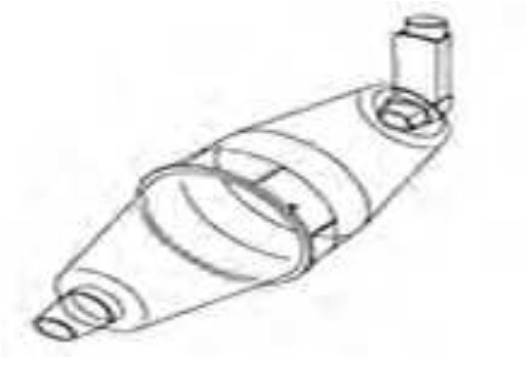
The following steps should be considered while using Meter dose inhaler:

- Shake vigorously (5 seconds)
- Remove cap of inhaler
- Hold Upright
- Put the inhaler in the mouth, and breathe out gently and close the lips tightly around the opening of the inhaler.

- Start to breathe in through the mouth, push down on the top of the inhaler and keep taking a slow, deep breath.
- Hold the breath for 10 seconds
- Breathe out slowly through pursed lips
- The next dose after 1 minute.

Meter dose inhaler with Spacer:

Spacers are devices that help to deliver asthma medicine to the lungs. They also make the inhaler easier to use.



- Shake vigorously (5 seconds)
- Remove cap of inhaler
- Hold Upright
- Put the inhaler into the spacer.
- Breathe out all the air from the lungs
- Put the spacer in the mouth, and close the lips tightly around the mouthpiece. Spray 1 puff of medicine into the spacer
- Start to take a slow, deep breath.
- Breathe out slowly through pursed lips
- The next dose after 1 minute

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- Decline in Immune System

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"Work Togethr To Make Difference"

Medication Counseling in Nepal

Phr. Om Darlami.....✍
Laboratory Incharge, CCT

Non-compliance to drug therapy is a common problem worldwide, even in developed countries. Evidence suggests that non- compliance can lead to adverse drug reactions (ADRs) and therapeutic failures. There are several reasons for non-compliance. The most common reasons include ADRs due to medication, poor understanding of instructions, the cost of medications, frequent administration, etc. Several strategies can be taken to improve patient compliance. One of the best means is the counseling of the patient by the pharmacists. Several studies have acknowledged that counseling by pharmacists can improve the patient's understanding about medication and life style modifications.

Patient counseling is defined as providing medication related information orally or in written form to the patients or their representatives, on topics like direction of use, advice on side effects, precautions, storage, diet and life style modifications. The concept of patient counseling is very new in South Asia.

Looking at present scenario of Nepal due to poor literacy rate and low economic status, patients cannot obtain adequate information regarding the disease and its treatment. Besides, around 70% of doctors are stationed in the urban area compare to that of rural. It has been estimated that the doctor - patient ratio in Kathmandu is 1:800, while the ratio in the hills and remote areas is 1:3000. This indicate, the number of patient visiting physician will be more which ultimately affect total time spent with patient, i.e. doctor has less time for their patient. If the doctors have less time with patient, they will not be able to give complete information regarding the safer and appropriate use of the medicine for the treatment of the disease.

Moreover, there are no patient information leaflets in the pharmaceutical products manufactured by the Nepalese companies. This patient information leaflets and package inserts are not mandatory by law in the country. Even

the dispensing pharmacist do not provide adequate information to the patients which may lead to noncompliance and ultimately to reduction in therapeutic outcomes. In these conditions medicine counseling plays an important role. The ultimate goal of counseling is to provide information directed at encouraging safe and appropriate use of medications, thereby enhancing therapeutic outcome. Similar type of study was conducted in South India in diabetic patient concluded that counseling done by the pharmacist not only improve better control in diabetes but also improve their quality of living which eventually means improvement in therapeutic outcomes.

Techniques of counseling

Several techniques can be adopted for effective counseling. Some of them include providing written information to the patient and the use of audiovisual materials. The use of various compliance aids include labeling, medication calendars, drug reminder chart and providing special medication containers and caps can also be adopted. The United States Pharmacopoeia (USP) medication counseling behavior guidelines divide medication counseling into the following four stages (USP, 1997).

- **Stage I:** Medication information transfer, during which there is a monologue by the pharmacist providing basic, brief information about the safe and proper use of medicine.
- **Stage II:** Medication information exchange, during which the pharmacist answers questions and provides detailed information adapted to the patients' situation.
- **Stage III:** Medication education during which the pharmacist provides comprehensive information regarding the proper use of medicines in a collaborative, interactive learning experience.
- **Stage IV:** Medication counseling, during which the pharmacist and patient have a detailed discussion intending to give the patient guidance that enhances problem-solving skills and assists with proper management of medical conditions and effective use of medication.

Medication counseling centers in Nepal

Medicine counseling is a new concept in Nepal. Manipal Teaching Hospital, Pokhara was the first to establish a medication counseling centre (MCC). The centre has played a vital role

in improving compliance with and outcomes of treatment. KIST Medical College (KISTMC) was the second institution to establish a MCC. The main aim of establishment of MCC was to improve patient understanding and compliance with treatment to improve therapeutic outcomes. The centre has emphasized counseling of medicines which use modified drug delivery system for example: Metered Dose Inhaler (MDI), Dry Powder Inhaler (DPI), pessaries etc. Various counseling aids are used and patients are counseled regarding medications and its use, disease, lifestyle modifications and use of medication devices. Counseling in MCC is done as per the Omnibus Budget Reconciliation Act - 1990 (OBRA-90).

In a study conducted in Manipal Teaching Hospital, Pokhara, most of the patient prescribed by nasal spray and metered dose inhaler visited the MCC for proper counseling.

Counseling patients with MDI is very essential. It has been found that approximately 75% of the patients using MDIs do not take them properly. It can reveal the importance of pharmacist for counseling about the administration of MDIs. It was also found that many patients who initially received counseling for the MDIs did not need counseling during their follow-up visits.

The time spent by the pharmacists should be adequate and in some cases, along with patient their relatives were also counseled for better therapeutic outcomes. This should not only be limited to the certain drug delivery system but should be use to counsel the entire pharmaceutical products as possible. Apart from that role of doctor is important to encourage patient to attend counseling services which eventually improve patient knowledge regarding the safer and appropriate use of medication more rationally.

Recently in Nepal, good pharmacy practice (GPP) guidelines have been drafted, which also includes certain guidelines for the pharmacist to counsel the patients.

In resource limited countries like Nepal, pharmacists can provide counseling to the patients through medication counseling centers. This may in turn improve patient adherence, which is one of the common causes for therapeutic failures.

Therefore, it can be concluded that MCC plays an important role in informing patients regarding safe and effective use of their medications which ultimately leads to rational use of medicine.

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PRACTICE OF SELF MEDICATION IN RETAIL PHARMACY

Phr. Kamal Baral.....✍
Assistant Lecturer, CCT

Self medication (SM) is an age old practice. In economically deprived communities, most episodes of illnesses are treated by self-medication. Due to the hilly terrain in Nepal, the poor socioeconomic status, the high cost of modern medicines and non-availability of doctors in rural areas, difficulties arise in accessing modern healthcare. Drug retail shops frequently serve as the public's first point of contact with the healthcare system. Due to the varying topography and climatic zones ranging from the plains of the 'terai' to the alpine grasslands, a variety of herbs and medicinal plants are found in Nepal that play an important role in self-medication. In India, another south Asian country with economic and cultural similarities to Nepal, pharmacists and pharmacy attendants play an important role in fostering self medication among the public. Non-doctor prescribing of medicines is also common in developing country. Nepal is no exception of above hence most people are thus forced to rely on private health care system which indicates SM is an often chosen practice in Nepal. It would not be possible nor desirable to try to eliminate this practice instead this study aimed at finding ways of using SM to strengthen primary health care.

There are two types of self medication: the first is the situation in which you walk into the chemist's shop and buy the drug over the counter without a prescription. The other form of self medication which society has evolved for itself is by manipulating the medical profession. This is what might be called prescription 'on demand'.

A research was carried out to assess the extent and estimate the prevalence rate of SM practice and to relate it with the socio-demographic parameters in Pokhara Valley. A prospective randomized questionnaire based descriptive study was conducted in the year 2010 for 90 days in which face-face interviews were conducted using a structured questionnaire to the customer attending to the 18 well known retail pharmacies of Pokhara valley during consecutive 90 days period.

The prevalence rate of SM in the sample during the 90 days preceding the interview was 62.04% (268/432). Working respondents (49.6%) aged 20-39 years with middle class income (42.9%) and of primary/secondary education level (31.34%) self medicate more frequently than others. SM was mainly for cough and cold (28.4%), pain (19.4%), cardiovascular

. "Health is like money, we never have a true idea of its value until we lose it." ~Josh Billings

disorder (10.1%), GI disorder (9.3%), allergy (8.2%), headache and fever (7.5%) and cutaneous disorder (6.3%). Previous experience (109/268) was the major source of reason for SM and source of information for SM. Drug for cough and cold, NSAIDs were the most commonly used class of drugs for SM. The findings showed that SM was a frequent practice among community of Pokhara valley, signifying the need for an educational campaign on the proper use of drugs.

Many studies have shown that the use of self-medication is twice as common as that of prescribed medication, and that self medication is often used together with prescribed medication. However, many patients and doctors alike are reticent to discuss the use of self medication during consultations for various reasons. It is well documented that doctors are often not fully aware of what medications their patients are taking especially if they are self administered. Same is the condition prevailed in Nepal as well.

Respondents' knowledge about the self medicated drug was poor instead were not asking additional information. This means that many people are at risk from side effects and from drug interactions; this is a cause for concern for general practitioners who are responsible for the total care of their patients. Many iatrogenic side effects can be prevented, and much better care can be provided, if general practitioners have a better understanding of the use of self medication among their patients.

The following steps are to be carried out to ensure the safety of patients with regard to prevailed SM practice:

To health authority:

1) Close and proper supervision is required towards the types and quality of drugs in the market.
2) The Ministry of Health Population has to ensure that all drug dispensers are qualified medical personnel.
3) Use the public mass media and public meetings for educational intervention to discuss the proper way of drug use and possible risks and side effects of drugs.
4) To instruct all drug dispensers that all drugs should not be distributed without medical prescription, except the limited safe drug and for short period of time.
5) Implementing Ministry of health pharmaceutical policy as mentioned in the NEDL and NSTG.

To all doctors and health workers:

1) Proper explanation to the patients about drugs, duration of use, and the possible side effects is very essential factor for good treatment.
2) Avoidance of irrational use of drugs.
3) Advices to the patients for regular checkup especially for the patients of chronic diseases.

Self medication has certain limitations that are to be followed strictly to ensure the welfare of the healthcare system in developing country like Nepal. Self medication might aid in the treatment but is not the safe and complete treatment protocol.

Acorus calamus (Bojho): Medicinal Uses and Toxicity

Mr. Sundar Bashyal.....✍
Former lecture, Department of Pharmacy, CCT

Acorus calamus, commonly known as Sweet Flag and in Nepal known as *Bojho*, is a tall perennial wetland monocot of the family Acoraceae, in the genus Acorus. It is grass-like, rhizome forming, perennial that can grow to about 2 meters high, resembling an iris. It grows in the temperate zones of Europe, North America and East Asia, along swamps, brooks and lakes. Various parts of this species (i.e. leaves, rhizomes and roots) have essential oil. Different studies have been carried out in the oil extracted from various parts of plant *A. calamus* in different places of the world.

Rhizomes of *Acorus calamus* L. are the useful parts and have a long history of usage in many countries including Nepal, China and India. It is widely employed in modern herbal medicine because of its sedative, laxative, diuretic, carminative and carcinogenic properties. Both the roots and leaves of *A. calamus* have shown antioxidant, antimicrobial and insecticidal activities.

Acorus calamus is a traditional medicinal plant that is commonly used for disorder of central nervous system abnormalities. In ayurvedic medicine, it is used for the treatment of insomnia, melancholia, epilepsy, hysteria, loss of memory remittent fevers and neurosis. This plant extract is mainly used for various pharmacological activities like antidiabetic, antiproliferative, immunosuppressive, antidiarrhoeal and hypolipidemic activities.

Acorus calamus oil is highly esteemed as an aromatic stimulant and tonic, often used for nervous complaints, vertigo, headaches and dysentery. It acts as carminative removing the discomfort caused by flatulence and checking the growth of the bacteria which gives rise to this problem. It has been often used to increase the appetite and benefit digestion.

Acorus calamus pure therapeutic quality essential oil can also be used in making ingredients, lotions, massage oils, scent, air freshners, perfume oils, aromatherapy products, bath oils, spa's, incense, facial steams and more.

"Health and cheerfulness naturally beget each other." ~Joseph Addison

Calamus is considered unsafe for human consumption by the United States Food and Drug Administration due to the fact that massive doses given to lab rats over extended time periods has proved to be carcinogenic. FDA studies have shown that, specially, calamus native to India contains the carcinogenic β-*asarone*.

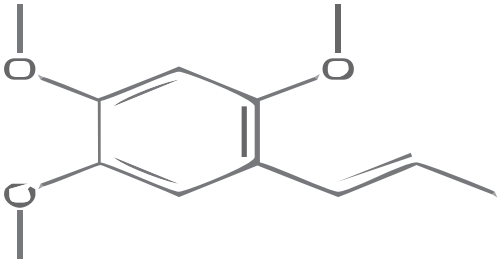

Fig: Molecular structure of β-*asarone*.

In reality, β-*asarone* is not actually a carcinogen, but it is a pro-carcinogen that is neither hepatotoxic nor directly hepatocarcinogenic. It must first undergo metabolic 1'-hydroxylation in the liver before achieving toxicity. Cyrochrome P450 in the hepatocytes is responsible for secreting the hydrolyzing enzymes that convert β-*asarone*. into genotopic epoxide structure.

Thus, the future research activities can be concerned to these facts and develop new ideas about the use of Acorus calamus by human beings and its side effects.

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❍❍❍

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(Obstrecian & Gynaecologist)

Alcohol and Medication Interactions

Phr. Asgar Ali Mikrani.....✍
Lecture, Dept. of Pharmacy, CCT

Many medications can interact with alcohol, thereby altering the metabolism or effects of alcohol or the medication. Some of these interactions can occur even at moderate drinking levels and result in adverse health effects for the drinker. Two types of alcohol medication interactions exist:

(1) Pharmacokinetic interactions, in which alcohol interferes with the metabolism of the medication.

(2) Pharmacodynamic interactions, in which alcohol enhances the effects of the medication, particularly in the central nervous system (e.g. sedation). Pharmacokinetic interactions generally occur in the liver, where both alcohol and many medications are metabolized, frequently by the same enzymes. Numerous classes of prescription medications can interact with alcohol, including antibiotics, antidepressants, antihistamines, barbiturates, benzodiazepines, histamine H2 receptor antagonists, muscle relaxants, non-narcotic pain medications and anti-inflammatory agents, opioids, and warfarin. In addition, many over-the-counter and herbal medications can cause negative effects when taken with alcohol.

Most people, who consume alcohol, whether in moderate or large quantities, also take medications at least occasionally. As a result, many people ingest alcohol while a medication is present in their body or vice versa. A large number of medications- both those available only by prescription and those available over the counter (OTC) -have the potential to interact with alcohol. Those interactions can alter the metabolism or activity of the medication and alcohol metabolism, resulting in potentially serious medical consequences. For example, the sedative effects of both alcohol and sedative medications can enhance each other (i.e. the effects are additive), thereby seriously impairing a person's ability to drive or operate other types of machinery.

Most studies assessing alcohol medication interactions focus on the effects of chronic heavy drinking. Relatively limited information is available, however, on medication interactions resulting from moderate alcohol consumption (i.e. one or two standard drinks per day). Researchers, physicians, and pharmacists must therefore infer

potential medication interactions at moderate drinking levels based on observations made with heavy drinkers. In addition, moderate alcohol consumption may directly influence some of the disease states for which medications are taken.

Common Alcohol - Medication Interactions:

Interactions between alcohol and a medication can occur in a variety of situations that differ based on the timing of alcohol and medication consumption. For example, such interactions can occur in people who consume alcohol with a meal shortly before or after taking a medication or who take pain medications after drinking to prevent a hangover.

Interactions between alcohol and various classes of medications:

S.N.	Drug Class (Conditions for which they are used)	Generic Name	Type of Interaction
1.	Analgesics (*pain relief*)	Aspirin, Acetaminophen	• Aspirin increases gastric emptying, leading to faster alcohol absorption in the small intestine; may also inhibit gastric ADH. • Alcohol enhances acetaminophen metabolism into a toxic product, potentially causing liver damage.
2.	Antibiotics (*microbial infections*)	Erythromycin, Isoniazid	• Erythromycin may increase gastric emptying, leading to faster alcohol absorption in the small intestine. • Alcohol increases the risk of isoniazid-related liver disease.
3.	Anticonvulsants (*seizure disorders*)	Phenytoin	• Chronic alcohol consumption induces phenytoin breakdown.
4.	Antihistamines (*allergies, colds*)	Diphenhydramine, Chlorpheniramine, Clemastine, Hydroxyzine, Promethazine, Cyproheptadine.	• Alcohol enhances the effects of these agents on the central nervous system (CNS), such as drowsiness, sedation, and decreased motor skills. • The interactions are more pronounced in elderly people. • No documented interactions exist with Non-sedating antihistamines (i.e. certrizine, hismanal, loratidine).
5.	Anticoagulants (*prevention of blood clots*)	Warfarin	• Acute alcohol intake may increase anticoagulation by decreasing warfarin metabolism, chronic alcohol ingestion decreases anticoagulation by increasing warfarin metabolism.

6.	Antidiabetic agents (*blood sugar regulation*)	Chlorpropamide, Glipizide, Glyburide.	• Alcohol consumption by diabetic patients taking these medications increases the risk of lower than-normal blood sugar levels. • Chlorpropamide, glyburide, and tolbutamide can cause disulfiram-like interactions after alcohol ingestion. • Metformin may cause increased levels of lactic acid in the blood after alcohol consumption.
7.	Barbiturates (*anesthesia, pain relief*)	Phenobarbital	• Chronic alcohol intake increases barbiturate metabolism by cytochrome P-450. • Alcohol enhances the sedative and hypnotic effects on the CNS.
8.	Benzodiazepines	Alprazolam, Chlordiazepoxide, Clonazepam, Clorazepate, Diazepam, Lorazepam, Midazolam, Oxazepam, Temazepam , Triazolam .	• Alcohol enhances the effects of these agents on the CNS, such as drowsiness, sedation and decreased motor skills.
9.	Histamine H_2 receptor antagonists (*ulcers, heart burn*)	Cimetidine, Nizatidine, Ranitidine.	• The agents inhibit ADH in the stomach, thereby reducing alcohol first-pass metabolism as well as increase gastric emptying. As a result, BALs are higher than expected for a given alcohol dose.This effect increases over time.
10.	Immune modulators (*rheumatoid arthritis*)	Methotrexate	• Immune modulators (i.e. medications that affect immune cell function) are associated with a risk of liver damage, which is increased in combination with alcohol.
11.	Muscle relaxants	Carisoprodol, Cyclobenzaprine	• Alcohol consumption enhances impairment of physical abilities (e.g. driving) and • increases sedation. • Carisoprodol produces an opiate-like high • when taken with alcohol, is metabolized to • meprobamate and sometimes abused as a

12.	NSAIDs (*pain relief and inflammation*)	Ibuprofen, Flurbiprofen, Fenoprofen, Ketoprofen, Naproxen, Diclofenac.	• Alcohol consumption increases the associated risk of gastrointestinal bleeding.
13.	Opioids (*pain relief*)	Codeine, Hydromorphone, Fentanyl, Morphine, Meperidine, Propoxyphene.	• Alcohol enhances the effects of these agents on the CNS, such as drowsiness, sedation and decreased motor skills.
14.	Sedatives and hypnotics	Chloral hydrate, Meprobamate	• Alcohol inhibits the metabolism of these agents and produces a depressant effect • on the CNS that includes sleepiness, • disorientation, incoherence and confusion.
15.	Tricyclic Antidepressants (depression)	Amitriptyline, Clomipramine, Desipramine, Doxepin, Imipramine, Nortriptyline, Trimipramine.	• Alcohol consumption increases the risk of sedation and a sudden drop in blood pressure when a person stands up (i.e. orthostatic hypotension).
16.	Herbal medications (*sleep aids*)	Chamomile, Echinacea, Valerian.	• Alcohol may accentuate the drowsiness that is associated with these herbal preparations.

Alcohol's Influences on Various Disease States:

Many people who are being treated for chronic health problems, such as diabetes and high blood pressure consume alcohol, whether occasionally or regularly even at moderate levels, may interfere with the activities of many medications prescribed for such conditions. In addition, however, alcohol use may contribute to or exacerbate certain medical conditions.

Diabetes:

In people with diabetes, control of the levels of the sugar glucose in the blood is severely impaired, either because these people lack the hormone insulin, which plays a central role in blood sugar regulation or because their body does not respond appropriately to the insulin they produce. Alcohol

consumption in diabetics can result either in higher than normal blood sugar levels (i.e. hyperglycemia) or in lower than normal blood sugar levels (i.e. hypoglycemia), depending on the patient's nutritional status. Thus, long term alcohol consumption in well nourished diabetics can lead to hyperglycemia. Conversely, alcohol consumption in diabetics who have not eaten for a while and whose glucose resources are exhausted (i.e. who are in a fasting state) can induce hypoglycemia. Both hyperglycemia and hypoglycemia can have serious health consequences. Diabetes medications that substitute for or stimulate the body's own insulin production also may lead to hypoglycemia. Alcohol induced hypoglycemia occurs in the fasted state, when the diabetic's blood sugar levels are already low and the body depends on the production of new glucose molecules to maintain sufficient blood glucose levels. These patients should be advised to drink alcohol only with or shortly after meals. Diabetics who consume alcohol also must be alert to the fact that the symptoms of mild intoxication closely resemble those of hypoglycemia. Accordingly, diabetics should check their blood glucose levels whenever they are uncertain about whether their symptoms are caused by hypoglycemia or alcohol intoxication). Finally, patients using certain diabetes medications (e.g. chlorpropamide) should be cautioned that the medications can cause a disulfiram like reaction when alcohol is consumed.

Hyperlipidemia:

In people with hyperlipidemia, the levels of fat molecules in the blood - particularly molecules called triglycerides are higher than normal. This condition can be associated with an increased risk of various health problems, the most serious of which is cardiovascular disease. Alcohol consumption may exacerbate hyperlipidemia, because the same metabolic alcohol effects that inhibit gluconeogenesis also inhibit fat metabolism. As a result, the production of certain molecules called very low density lipoprotein (VLDL) particles is increased. Thus, people with elevated triglyceride levels in the blood should probably abstain from alcohol to determine if alcohol consumption is contributing to their elevated lipid levels.

Hypertension:

Elevated blood pressure is a risk factor for cardiovascular disease, including heart attacks. Alcohol is known to cause a dose dependent elevation in blood pressure. Researchers do not yet know exactly what levels of alcohol

consumption cause hypertension. However, all patients who are diagnosed with high blood pressure should be questioned regarding their alcohol intake before being started on antihypertensive therapy. In some of those patients, cessation of drinking alone may reduce blood pressure and thus obviate the need for pharmacological treatment. Furthermore, patients taking certain kinds of cardiac medications should be warned that alcohol consumption in combination with those medications may cause lower than normal blood pressure. These important potential risks associated with even moderate alcohol consumption (i.e. one or two standard drinks per day) must be considered when discussing the cardiovascular benefits associated with moderate drinking (e.g. reduced risk of heart attacks and certain kinds of strokes.)

Preventing Alcohol-Induced Hypoglycemia:

Alcohol consuming diabetic patients should consider the following general suggestions for preventing alcohol-induced hypoglycemia:

1. Never consume alcohol without food or while in a fasting state.
2. Consume only moderate amounts of alcohol (i.e. one or two bottles of beer, glasses of wine, or mixed drinks at one sitting) and drink no more than once or twice weekly.
3. Allow 1.5 to 2 hours between drinks.
4. Avoid sugar containing drinks, and consume only light beer, dry wine, or drinks mixed with diet sodas.
5. Check blood sugar levels if unsure whether certain body sensations (e.g. light headedness) result from hypoglycemia or alcohol effects.
6. Be on the alert for alcohol hidden in prescription and over-the-counter medications.

Conclusions

Alcohol's effects on the metabolism and activities of various medications. Variety and complexity of observed interactions between alcohol and numerous medications, is difficult to recommend an alcohol consumption level that can be considered safe when taking medications. As a rule, people taking either prescription or OTC medications should always read the product warning labels to determine whether possible interactions exist. Similarly, health care providers should be alert to the potential for moderate alcohol use to either enhance medication effects or interfere with the desired therapeutic actions of a medication.

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LIFESTYLE DRUGS

Subodh Chataut.....
B. Pharm, 3rd Batch, CCT

The term "Lifestyle Drugs" is used to describe medicines that are used to treat 'lifestyle illnesses', which are actually the diseases that arise through 'lifestyle choices' such as smoking, alcoholism or overeating. Generally, they are medications designed to improve a person's quality of life by treating less serious conditions, such as baldness, impotence, wrinkles, acne, weight loss, hair loss, insomnia and sexual dysfunction which are perceived as either not a medical problem at all or as minor medical conditions related to others. Lifestyle drugs are mostly claimed to be harmless, but the physician must pay attention to possible abuse, side effects, risks and complications so as not to put people at risk. The reason behind the exponential growth of the market for the lifestyle drugs seems to be complex and involves interplay of various factors. These drugs cater to modern man's lifestyle needs like vigour, youth, beauty, intelligence, personality etc. The last few years have seen an exponential increase in the endorsements of these drugs by high profile people from Bollywood, Hollywood and sports arena.

Table: Some Commonly Used Lifestyle drugs

Lifestyle Drugs	Lifestyle Indications
Viagra (Sildenafil citrate)	Impotency, Erectile dysfunction
Norethisterone	Short/ postpone menstruation
Anabolic steroids	Muscle building
Orlistat, Sibutramine	Weight Loss
Minoxidil, Finasteride	Baldness
Smart drugs	Cognitive Enhancers
Amphetamines	Alertness
Antioxidants, Botulinum toxin	Wrinkles and ageing / cosmetic alterations
Cyproheptadine	Appetite enhancer
Food supplements, vitamins	General wellbeing
Height increasing pills	Height

Lifestyle Drugs in Old Age

Normal aging has never been a disease. The age related changes are mostly due to the individual lifestyle of the person. But recently, aging has been medicalized and a large number of healthy old aged persons are using 'lifestyle' drugs such as nootropics, psychopharmaca, hormones and ecodrugs. The old aged people have become more cautious about the age related changes in their body such as hair

loss, wrinkles etc., and want to postpone it as long as possible.

Smart Drugs

Stress has become a part and parcel of our life and is also stated to be one of the main reasons for the development of various cognitive illnesses such as dementia. The term "smart drugs" is used for "any of a variety of substances, including certain vitamins, herbs, and prescription drugs, reputed to improve such mental functions as memory and alertness or to lessen or prevent damage to brain cells". The other name for these drugs is Nootropics which in Greek means acting on the brain. They are a class of synthetic and natural supplements that enhance cognitive function but also the healthy individuals are trying these smart drugs to improve their working capacity. Reported effects include increased alertness, energy, short and long term memory capacity, concentration levels, and work performance. Certain other drugs which can be categorized as smart drugs include:

a. Ginkgo biloba

b. DMAE (di-methyl amino ethanol)

c. DHA (docosahexaenoic acid)

d. Acetyl L carnitine

e. Phosphatidylserine

f. Ginseng

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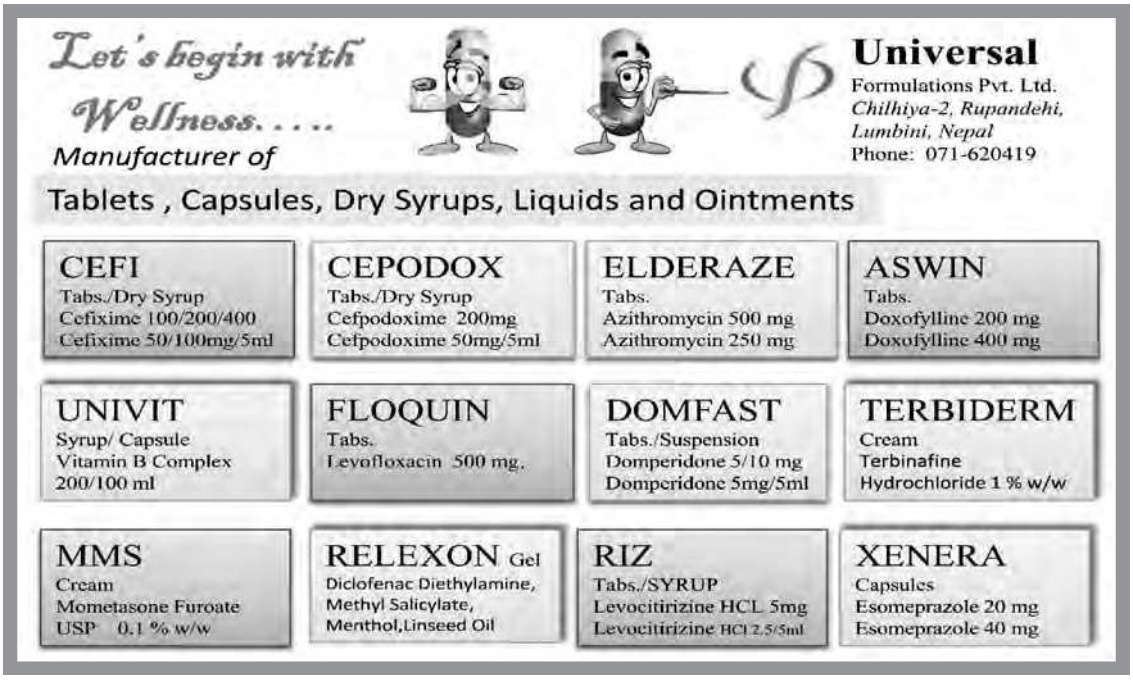

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Organic Chemistry in Pharmacy

Basanta Khanal.....✍
(MSc. Chemistry), Founder of LITS College, Butwal

Organic chemistry has been highly disregarded as a discipline of importance for medical and premedical curriculums. At present, however, people are beginning to make the connection between organic chemistry and its importance in the medical field.

New curriculums are being designed that unite organic chemistry and biomedical processes. Task forces consisting of chemistry and biology researchers and professors have been formed to design curricula that incorporate organic chemistry courses to suit the needs of students in medical fields. These task forces are attempting to develop a practical, comprehensive approach to organic chemistry as it applies to medicine.

Organic chemistry is essential in biological and medical fields. All living organisms are composed of abundances of organic substances. Evolution of life has been postulated to have been developed from one single organic compound called a nucleotide. Nucleotides polymerize, or join together to form the building blocks of all life, DNA (deoxyribonucleic acid).

Organic compounds constitute various substances in the body which are vital for life to be sustained. Proteins, carbohydrates and lipids are organic compounds that contribute to the structure of the human body. Organic compounds also make up enzymes and catalysts that are mandatory for essential biological processes to occur. Also, organic compounds are responsible for governing ion transport channels in the cell which function in carrying information from one cell to another and mediating cell to cell communication. Failure of ion transport may result in failure of important biological processes in the body.

Pharmaceuticals are also comprised mainly of organic compounds. What doctor would be efficient if he or she was not familiar with the structure and function of the drugs they were administering? Organic chemistry of pharmaceuticals must be understood to properly prescribe a drug to a patient.

The function of organic processes in the body must also be known by the

doctor even before they attempt to administer any drugs. Many medical disorders are due to disruption of organic molecules in the body: for example, hemophilia. This is a disease in which caroxyglutamic acid is deficient in the body. This organic compound is essential for blood clotting to occur within the body. People who lack this substance may die due to a minor cut or small bruise. This demonstrates the importance of organic compounds in the body.

Carbon monoxide poisoning is an example of a very simple, yet extremely toxic organic compound that even in small quantities can cause death. Many toxic substances are of organic descent. Doctors must be able to determine the effects of these toxic substances in the body, recognize the symptoms they are associated with, and prescribe the appropriate pharmaceutical to combat the poison.

It is evident that organic molecules are essential for the sustenance of all life. Understanding these compounds is crucial in the medical field not only to understand basic biological functions, but also to predict scenarios in the body which may be due to disruption of organic substances, or adverse reactions due to foreign organic substances in the body. Complete medical efficiency will only be achieved when the science of organic chemistry is understood. ❍❍❍

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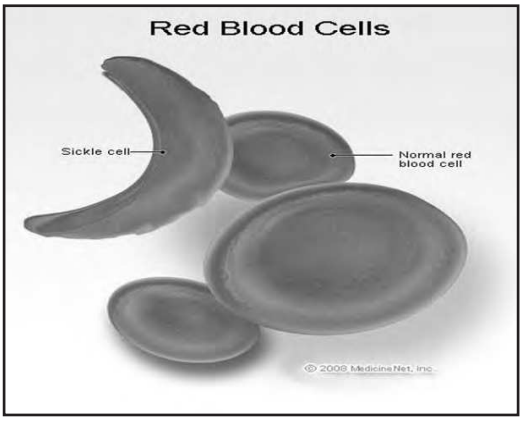
So many people spend their health gaining wealth, and then have to spend their wealth to regain their health. -A.J. Reb Materi

What is sickle cell anaemia?

Muna Neupane.....✍
Resunga Multiple Campus, Tamghas, Gulmi

Sickle cell anaemia (sickle cell disease) is an autosomal co-dominant genetic blood disorder characterized by red blood cells that assume an abnormal, rigid, sickle shape. The sickling occurs because of a mutation in the hemoglobin gene. The abnormal hemoglobin causes distorted (sickled) red blood cells. The sickled red blood cells are fragile and prone to rupture. When the number of red blood cells decreases from rupture (hemolysis), anemia is the result. This condition is referred to as sickle cell anemia. The irregular sickled cells can also block blood vessels causing tissue and organ damage and pain.



Sickle-cell disease, usually presenting in childhood, occurs more commonly in people (or their descendants) from parts of tropical and sub-tropical regions where malaria is or was common. One-third of all indigenous inhabitants of Sub-Saharan Africa carry the gene because in areas where malaria is common, there is a fitness benefit in carrying only a single sickle-cell gene (sickle cell trait). Those with only one of the two alleles of the sickle-cell disease, while not more resistant, are more tolerant of infection and thus show less severe symptoms when infected by malaria parasites. It is now diagnosed more frequently among the Tharu tribe of western and eastern Terai region of Nepal.

Signs and symptoms

Sickle cell crisis

The term "sickle cell crisis" is used to describe several independent acute conditions occurring in patients with sickle cell disease. Sickle cell disease results in anaemia and crisis that could be of many types.

1. **Vaso-occlusive Crisis:** The vaso-occlusive crisis is caused by sickle-shaped red blood cells that obstruct capillaries and restrict blood flow to an organ, resulting in ischaemia, pain, necrosis and often organ damage.
2. **Splenic Sequestration Crisis:** Because of its narrow vessels and function in clearing defective red blood cells, the spleen is frequently affected. It is usually infarcted before the end of childhood in individuals suffering from sickle-cell anaemia.
3. **Splenic Sequestration Crises:** are acute, painful enlargements of the spleen. The abdomen becomes bloated and very hard. Splenic sequestration crises are considered an emergency. If not treated, patients may die within 1-2 hours due to circulatory failure.
4. **Aplastic Crisis:** Aplastic crises are acute worsening of the patient's baseline anaemia, producing pallor, tachycardia, and fatigue. This crisis takes 4 days to one week to disappear. Most patients can be managed supportively; some need blood transfusion.
5. **Hemolytic Crisis:** Hemolytic crises are acute accelerated drops in hemoglobin level. The red blood cells break down at a faster rate. This is particularly common in patients with co-existent G6PD deficiency. Management is supportive, sometimes with blood transfusions.
6. **Other:** Another recognized type of sickle crisis is the acute chest syndrome, a condition characterized by fever, chest pain, difficulty breathing, and pulmonary infiltrate on a chest X-ray.

Complications

Sickle-cell anaemia can lead to various complications, including:

- Overwhelming post (auto) splenectomy infection (OPSI), which is due to functional asplenia, caused by encapsulated organisms such as Streptococcus pneumoniae and Haemophilus influenzae. Daily penicillin prophylaxis is the most commonly used treatment during childhood, with some haematologists continuing treatment indefinitely. Patients benefit today from routine vaccination for H. influenzae, S. pneumoniae, and Neisseria meningitidis.
- Stroke, which can result from a progressive narrowing of blood vessels, preventing oxygen from reaching the brain. Cerebral infarction occurs in children and cerebral haemorrhage in adults.
- Cholelithiasis (gallstones) and

cholecystitis, which may result from excessive bilirubin production and precipitation due to prolonged haemolysis.

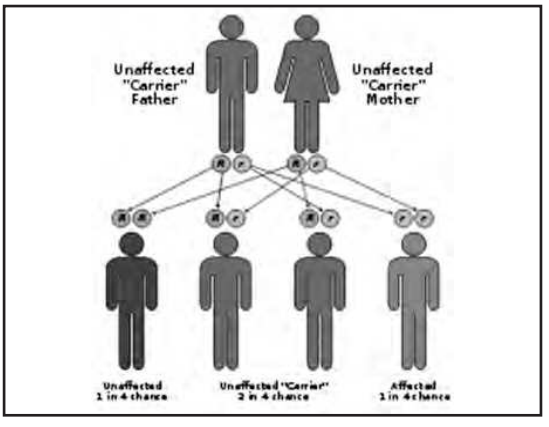
- Avascular necrosis (aseptic bone necrosis) of the hip and other major joints, which may occur as a result of ischaemia.
- Decreased immune reactions due to hyposplenism (malfunctioning of the spleen).
- Priapism and infarction of the penis.
- Osteomyelitis (bacterial bone infection); the most common cause of osteomyelitis in sickle cell disease is Salmonella (especially the non-typical serotypes Salmonella typhimurium, Salmonella enteritidis, Salmonella choleraesuis and Salmonella paratyphi B), followed by Staphylococcus aureus and Gram-negative enteric bacilli perhaps because intravascular sickling of the bowel leads to patchy ischaemic infarction.
- Opioid tolerance, which can occur as a normal, physiologic response to the therapeutic use of opiates. Addiction to opiates occurs no more commonly among individuals with sickle-cell disease than among other individuals treated with opiates for other reasons.
- Acute papillary necrosis in the kidneys.

Leg ulcers.

- In eyes, background retinopathy, proliferative retinopathy, vitreous haemorrhages and retinal detachments, resulting in blindness. Regular annual eye checks are recommended.
- During pregnancy, intrauterine growth retardation, spontaneous abortion, and pre-eclampsia.
- Chronic pain: Even in the absence of acute vaso-occlusive pain, many patients have chronic pain that is not reported.
- Pulmonary hypertension (increased pressure on the pulmonary artery), leading to strain on the right ventricle and a risk of heart failure; typical symptoms are shortness of breath, decreased exercise tolerance and episodes of syncope.

How is sickle cell anemia inherited?

Sickle cell anemia is inherited as an autosomal (meaning that the gene is not linked to a sex chromosome) recessive condition whereas sickle cell trait is inherited as an autosomal dominant trait. This means that the gene can be passed on from a parent carrying it to male and female children. In order for sickle cell anemia to occur, a sickle cell gene must be inherited from both the mother and the father, so that the child has two sickle cell genes.



Diagnosis

- In HbSS, the full blood count reveals haemoglobin levels in the range of 6-8 g/dL
- A high reticulocyte count (as the bone marrow compensates for the destruction of sickle cells by producing more red blood cells
- A blood film may show features of hyposplenism (target cells and Howell-Jolly bodies).
- Sickling of the red blood cells, on a blood film, can be induced by the addition of sodium metabisulfite. The presence of sickle haemoglobin can also be demonstrated with the "sickle solubility test". A mixture of haemoglobin S (Hb S) in a reducing solution (such as sodium dithionite) gives a turbid appearance, whereas normal Hb gives a clear solution.
- Abnormal haemoglobin forms can be detected on haemoglobin electrophoresis, a form of gel electrophoresis on which the various types of haemoglobin move at varying speeds. Sickle-cell haemoglobin (HgbS) and haemoglobin C with sickling (HgbSC)-the two most common forms-can be identified from there.
- The diagnosis can be confirmed with high-performance liquid chromatography (HPLC).
- A urinalysis to detect an occult urinary tract infection, and
- Chest X-ray to look for occult pneumonia should be routinely performed.

Management

Folic acid and penicillin

- Children born with sickle-cell disease will undergo close observation by the paediatrician and will require management by a haematologist to assure they remain healthy. These patients will take a 1 mg dose of folic acid daily for life. From birth to five years of age, they will also have to take penicillin daily due to the immature immune system that makes them more prone to early childhood illnesses.

Painful (vaso-occlusive) crisis

- Most people with sickle-cell disease have intensely painful episodes called vaso-occlusive crises. The frequency, severity, and duration of

these crises, however, vary tremendously. Painful crises are treated symptomatically with analgesics; pain management requires opioid administration at regular intervals until the crisis has settled. For milder crises, a subgroup of patients manage on NSAIDs (such as diclofenac or naproxen). For more severe crises, most patients require inpatient management for intravenous opioids; patient-controlled analgesia (PCA) devices are commonly used in this setting. Diphenhydramine is also an effective agent that is frequently prescribed by doctors in order to help control any itching associated with the use of opioids.

Acute chest crisis

- Management is similar to vaso-occlusive crisis, with the addition of antibiotics (usually a quinolone or macrolide, since wall-deficient ["atypical"] bacteria are thought to contribute to the syndrome), oxygen supplementation for hypoxia, and close observation. Should the pulmonary infiltrate worsen or the oxygen requirements increase, simple blood transfusion or exchange transfusion is indicated. The latter involves the exchange of a significant portion of the patient's red cell mass for normal red cells, which decreases the percent of haemoglobin S in the patient's blood.

Hydroxyurea

- The first approved drug for the causative treatment of sickle-cell anaemia, hydroxyurea, was shown to decrease the number and severity of attacks in a study in 1995 (Charache et al.) and shown to possibly increase survival time in a study in 2003 (Steinberg et al.).

Bone marrow transplants: Bone marrow transplants have proven to be effective in children. ❍❍❍

EBOLA HEMORRHAGIC FEVER

Bal Ram Neupane.....✍
(M.Sc. Microbiology, Lecturer, CCT

KEY FACTS

- Ebola virus disease EVD, formerly known as Ebola hemorrhagic fever, is severe, often fatal illness in humans,
- EVD outbreaks have a case fatality rate of up to 90%
- EVD outbreaks occur primarily in remote villagers in central and West Africa, near tropical rain forests,
- " The virus is transmitted to people from wild animals and spread in human population through human to human transmission,
- Fruit bats are considered to be the natural host of the Ebola virus,
- Severely ill patients require intensive supportive care. No licensed specific treatment or vaccine is available for use in people or animals.

DEFINITION

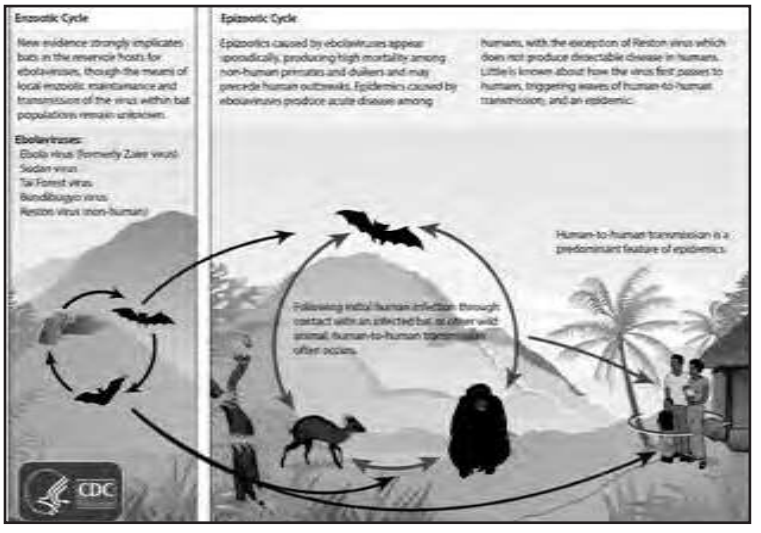
Ebola virus cause an acute febrile illness associated with high mortality. This illness is characterized by multisystem involvement that begins with the abrupt onset of headache, myalgias, and fever and proceeds to prostration, rash, and shock and often to bleeding manifestations. Epidemics

usually begin with a single case acquired from an unknown reservoir in nature and spread mainly through close contact with sick persons or their body fluids, either in the home or at the hospital. Figure: Electron micrograph of Ebola

ETIOLOGY

Ebola HF is caused by infection with a virus of the family Filoviridae, genus Ebolavirus. The family Filoviridae comprises two antigenically and genetically distinct viruses: Marburg virus and Ebola virus. There are five identified subspecies of Ebolavirus. Four of the five have caused disease in humans: Ebola virus (Zaire ebolavirus); Sudan virus (Sudan ebolavirus); Taï Forest virus (Taï Forest ebolavirus, formerly Côte d'Ivoire ebolavirus); and Bundibugyo virus (Bundibugyo ebolavirus). The fifth, Reston virus (Reston ebolavirus), has caused

disease in nonhuman primates, but not in humans. Like all filovirus, ebolavirus are filamentous particles that may appear in the shape of U or 6 and they may be coiled or branched. They are 80 nm wide but length may vary from 974nm to 1086nm.



TRANSMISSION

Ebola is introduced into the human population through close contact with the blood, secretions, organs, or other bodily fluids of infected animals. In Africa, infections have been documented through the handling of infected Chimpanzees, gorillas, fruit bats, monkeys, forest antelope and porcupines found ill or dead in the rain forest. Ebola then spreads in the community through human-to-human transmission, with infection resulting from direct contact through broken skin or mucous membranes, with the blood, secretions, organs, or other bodily fluids of infected people and indirect contact with environments contaminated with such fluids. Men who have recovered from the disease can still transmit the virus through their semen for up to 7 weeks after recovery from illness.

Health workers have frequently been infected while treating patients with suspected or confirmed EVD.

EPIDEMIOLOGY

The first Ebola virus species was discovered in 1976 in what is now the Democratic Republic of the Congo near the Ebola River from which the disease takes its name. Since then, outbreaks have appeared sporadically. In March 2014, an outbreak of the Ebola virus occurred in the western African nation of Guinea. As of 10 April, 157 suspected and confirmed cases and 101 deaths has been reported in Guinea, 22suspected cases in Liberia including 14 deaths and similarly in Sierra Leone, Mali and Nigeria. On 31 July 2014, WHO reports the death toll has reached 826 from1440 cases and till the August 10 the death toll has reached above 1000. Now it has been spread in various countries of world including Saudi Arabia, USA, India and other countries. Nepal is also in greater risk from the people coming from the affected areas.

PATHOLOGY AND PATHOGENESIS

In humans and in animal models, Ebola and Marburg viruses replicate well in virtually all cell types, including endothelial cells, macrophages, and parenchyma cells of multiple organs. The earliest involvement is that of the mononuclear phagocyte system, and this is responsible for initiation of the disease process.

Viral replication is associated with cellular necrosis both in vivo and in vitro. Significant findings at the light-microscopic level include liver necrosis with Councilman Bodies, interstitial pneumonitis, cerebral glial nodules, and small infarcts.

Antigen and virions are abundant in fibroblasts, interstitial, and (to a lesser extent) the appendages of the subcutaneous tissues in fatal cases; escape through small breaks in the skin or possibly through sweat glands.

Acute infection is associated with high levels of circulating virus and viral antigen. Clinical improvement takes place when viral titers decrease concomitantly with the onset of a virus-specific immune response. Recovery is apparently mediated by the cellular immune response.

CLINICAL MANIFESTATIONS

- Fever
- Headache
- Joint and muscle aches
- Weakness
- Diarrhea
- Vomiting
- Stomach pain
- Lack of appetite

Some patients may experience:

- A Rash
- Red Eyes
- Hiccups
- Cough
- Sore throat
- Chest pain
- Difficulty breathing
- Difficulty swallowing
- Bleeding inside and outside of the body

LABORATORY FINDINGS

- Leukopenia is common early on; neutrophilia has its onset later.
- Platelet counts fall below (sometimes much below) 50,000/L.
- Laboratory evidence of disseminated intravascular coagulation may be found.
- Serum levels of alanine and aspartate aminotransferases (SGOT and SGPT) rise progressively, and jaundice develops in some cases.
- The serum amylase level may be elevated.
- Proteinuria is usual; decreased kidney function is proportional to shock.

DIAGNOSIS

- Diagnosing Ebola HF in an individual who has been infected for only a few days is difficult, because the early symptoms are nonspecific.

- However, if a person has the early symptoms of Ebola HF, Samples from the patient can then be collected and tested to confirm infection.

Diagnostic tests available

- Antigen-capture (ELISA) testing
- IgM ELISA
- Polymerase chain reaction (PCR)
- Virus isolation
- IgM and IgG antibodies
- Immunohistochemistry testing
- PCR

RISK OF EXPOSURE

In Africa, confirmed cases of Ebola HF have been reported in:

- Democratic Republic of the Congo (DRC)
- Gabon
- South Sudan
- Ivory Coast
- Uganda
- Republic of the Congo (ROC)
- South Africa (imported)

PREVENTION

No vaccine or antiviral drug is currently available, but barrier nursing precautions in African hospitals can greatly decrease the spread of the virus beyond the index case and thus prevent epidemics of filoviruses and other agents as well.

Barrier nursing techniques include:

- Wearing of protective clothing (such as masks, gloves, gowns, and goggles)
- The use of infection-control measures (such as complete equipment sterilization and routine use of disinfectant)
- Isolation of Ebola HF patients from contact with unprotected persons

The aim of all of these techniques is to avoid contact with the blood or secretions of an infected patient. If a patient with Ebola HF dies, it is equally important that direct contact with the body of the deceased patient be prevented.

TREATMENT

Standard treatment for Ebola HF is still limited to supportive therapy. This consists of: o balancing the patient's fluids and electrolytes o maintaining their oxygen status and blood pressure o treating them for any complicating infections.

Timely treatment of Ebola HF is important but challenging since the disease is difficult to diagnose clinically in the early stages of infection. Because early symptoms such as headache and fever are nonspecific to ebola viruses, cases of Ebola HF may be initially misdiagnosed.

However, if a person has the early symptoms of Ebola HF and there is reason to believe that Ebola HF should be considered, the patient should be isolated and public health professionals notified. Supportive therapy can continue with proper protective clothing until samples from the patient are tested to confirm infection. ❍❍❍

Role of Medicinal Chemist in the Modern Drug Discovery and Development

Arjun Bhandari.....✍
Chemistry Lecturer, CCT

In medicinal chemistry, the chemist attempts to design and synthesize a medicine or a pharmaceutical agent which will benefit humanity. Such a compound could also be called a 'drug'. Drug discovery has changed over the year but the goal remains the same; to find safer medicine for the deadliest diseases. Traditionally, the discovery of new drug has arise from observation that various plant extract possess interesting biological effects. However, early user of such plant extract didn't understand or realize which component in the material was responsible for achieving these therapeutic benefits. The main difference between modern and old-age medicine is identifying the composition of matter or the active form within the medicine itself. This modern drug discovery and development is mostly a complex, expensive, time consuming and market driven process with very few novel drug candidates actually making it through the Food and Drug Administration (FDA) for approval. Discovery and development of new drug doesnot rely so much on miracles or serendipity anymore, but instead utilize highly planned processes involving cutting edge technologies.

The previous era of modern drug discovers was dominant by chemistry, whereas now a more rational approach is employed where knowledge about enzyme and receptor has required a unique dialogue between chemist and biologist. Medicinal chemist has an ever changing role in modern drug discovery. No longer are the days of simple synthesis, instead complex synthetic method and technologies such as combinatorial chemistry (Combichem), microwave assisted organic synthesis (MAOS) methods have evolved the daily life of a chemist. These new technologies are helping him to attain his goal much faster in the discovery processes. Drug was designed, synthesized and purified successfully in order to aide in the first step of development. Medicinal chemists combine comphrehensive knowledge of the synthetic chemistry, medicinal chemistry and biology literature with the ability to drive the project forward. They

are the scientifically broad innovator who propose and work on all available drug targets.

Medicinal chemist especially in academia are now increasingly involved in drug discovery and development process, they have become tremendously important in the innovation and discovery of drug. Therefore many industries are realizing the potentiality from academia and they are approaching for possible collaboration. Such collaboration will continue to improve human health by facilitating novel and innovative drug molecule and treatment. Also medicinal chemist know the structurally based therapeutic evolution (SBTE) of drug , which approach emphasize the relevance of chemistry to the practice of pharmacy and demand inclusion of chemistry knowledge in the making of therapeutical decision crucial to the provision of pharmaceutical care.

The SBTE concept utilize the relevant knowledge acquire in the medicinal chemistry course to help them apply drug structure information to actual therapeutic situation. As a result, scientifically evaluated specific patient information in order to recommend appropriate drug entities, dosage form and routes of administration and to counsel patient on their therapies. ❍❍❍

A Critical Evaluation of the Requirements for Premises as per Drug Manufacturing Code of Nepal in Global Perspective and a Referral to the Good Governance for Pharmaceutical Sector

Phr. Atisammodavardhana Kaundinnyayana....✍
Dhungepatan, Lekhntah, Kaski, Nepal

Introduction

Premises Requirements and Production of Pharmaceuticals

In pharmaceutical context, the premises refer to the location and area of the industry which also includes the design, construction, adaptation and maintenance of it in accordance to the pharmaceutical operations to be carried out there. The specification of premises requirement is the very important area of special consideration for the quality production of pharmaceuticals. From the beginning of the quality assurance guidelines it has been an integral part of it. World Health Organization in its document 'Quality assurance of pharmaceuticals: A compendium of guidelines and related materials Volume 2, 2nd updated edition, Good manufacturing practices and inspection' describes about the requirements of the ancillary areas, storage areas, weighing areas and production areas and quality control areas under the heading of premises.

General Considerations

According to WHO, the layout design of premises must aim to minimize the risk of errors and permit effective cleaning and maintenance in order to avoid cross-contamination, build up of dust or dirt, and, in general, any adverse effect on the quality of products. The good sanitation, regular maintenance, proper electrical supply, lighting, temperature, humidity and ventilation, proper mechanism of controlling the insect and animal entry, logical human and material flow with the proper record keeping system of all these activities.

Specific Areas

There should be specific and separate provisions for the ancillary areas like rest and refreshment rooms, washing area, toilets, animals houses, maintenance workshops, separate from manufacturing and control areas. The provision of enough and appropriate storage areas for all types of materials, specific dispensing booth with proper weighing facilities, self contained production areas with the focus of the specific production type are the other important premises considerations. Quality control laboratories are other important premises which require the specific consideration for its design, construction and facilities.

Drug Manufacturing Code of Nepal 2041 and the Premises requirements

'The Drug Manufacturing Code of Nepal 2041 (1986)'states about the specific premises requirements in its different clauses. In clause number four, the place where the production building is specified as the area where a public toilet or dumping site is not situated and where foul gas and much smoke come out and where environment is polluted.

The clause number five deals with the arrangement for production under which there are two subheadings namely general arrangements and special arrangements. Under general arrangements, the proper supply of water, air, electricity, air outlet system, sanitation and waste disposal mechanism, separation of storage and production areas and their regular cleaning mechanism are stated, Under the special arrangements, the considerations are states with the emphasis on special productions like parenterals. Water proof ceilings and walls, easily cleanable surfaces, proper check of human flow and sterile environment is given the special mention.

The short comings and scope of improvements of the code is discussed later below.

Premises requirements in the Global context

There are various specifications available regarding the premises requirements of the Pharmaceutical manufacturing units around the globe. The master document for which can be considered as the WHO GMP guideline. Other famous guidelines such as Euralex Volume 4 (GMP guidelines of European Union), GMP Health Canada (Good Manufacturing Practices (GMP) Guidelines -2009 Edition, Version 2 GUI-0001), The 'Orange Guide' of UK (Rules and Guidance for Pharmaceutical Manufacturers and Distributors 2007) are more or less similar to that of WHO and specifically focus on the environmental consideration of air and water, constructional design and self contained areas, proper lighting, piping, cleaning friendly surfaces, all types of organism control, and ventilation. All these premises requirements are based on the principle of human, material and process flow ensuring the prevention from cross-contamination and mix-ups.

Other GMP guidelines such as USFDA (United States Food and Drug Administration) guidelines, Pan American Health Organization guidelines and ICH (International Conference on Harmonization of Technical Requirements for Registration of Pharmaceuticals for Human Use) guidelines are also more or less similar to that of WHO. Among the several guidance documents prepared by USFDA in 'Guidance for industries: Manufacturing, Processing, or Holding Active Pharmaceutical Ingredients: Draft Guidance', a draft document describes about the premises requirements in detail.

As a specific example, in the document issued by Central Drugs Standard Control Organization, Directorate General of Health Services, Ministry of Health and Family Welfare, Government of India as GOOD MANUFACTURING PRACTICES AND REQUIREMENTS OF PREMISES, PLANT AND EQUIPMENT FOR PHARMACEUTICAL PRODUCTS SCHEDULE M PART I, there is detail specification for the premises requirements. Apart from the regular premises areas as per WHO guidelines the document specifically addresses the water system, disposal of waste, warehouse area, and even personnel and their clothing and sanitation in this chapter. This also includes the specific precautions from the several mix-ups and cross contamination conditions.

In another example The GMP guidelines of the Gulf countries 'The General GCC (Gulf Cooperation Council) Guidelines for Good Manufacturing Practice for Various Types of Medicinal Products' give more importance to the air flow and air locks apart from all regular aspects.

Nepalese Scenario

In Nepalese context, implementation of the standard premises requirement is still a big challenge. Though the Drug Manufacturing Code 2041 states about the air environment of the Pharmaceutical plant there is still ambiguity regarding the specific quality of environmental air the surroundings of the Pharmaceutical plant. The coexistence of the Pharmaceutical plant and the air polluting plants like Brick industries in the nearby locations were hot topics of discussion in the near past. No new licenses should be issued for the pharmaceutical plant near such environment and there should be strong mechanism to monitor the air handling unit of the existing pharmaceutical plants in such area.

Good governance norms like ethics are the apex regulating factor for the issue of license in such conditions. The human health is always is to be given top priority ahead of all other interests. The business oriented people are always trying to use their several influences in the different political and administrative level in order to use the legal ambiguity and loopholes to enjoy the exemption from the implementation of such strong requirements. Free and corruption free monitoring only can ensure the implementation of such guidelines and establish the good governance in pharmaceutical sector.

Shortcomings and Scope for improvements

Some of the shortcoming or the scope of improvements in the Drug Manufacturing Code of Nepal 2041 in context of premises requirements are listed below:

i. The clauses have to be separated based on the provisions on Ancillary area, Storage area, Production area and Quality control area in addition to the

buildings and surroundings.

Environment and Surroundings

ii. Address to the existence of other factories having potential airborne cross contamination.

iii. Environment of open sewage has to be specially mentioned as it is the great source of contamination.

iv. Biological wastes like dead bodies or body parts of the animals disposed in open space around the plant should need the special mention.

v. Open incinerations of the dead human nearby can be included as the restriction criteria for the location of pharmaceutical plant.

vi. Disposal of wastes including the rejected active or raw materials has to be addressed

vii. The mechanism of treatment of air and water to be discharged from the plant needs to be specified for the environmental safety around the plant

viii. Pest control and check of the access of rodents and birds is not mentioned.

Ancillary Area

ix. Separation of rest, refreshment and changing rooms, mechanical workshops and animal houses has to be mentioned.

Storage Area

x. The provision of the prevention to the adverse affects to the stored raw materials and drugs (Clause 5, 2 Specific consideration b.) should be specified and measures should be clarified such as by including the factors like, light, temperature and humidity.

Production Area

xi. Requirement of separate self contained facilities for the production of penicillin, biological, sex hormones and cytotoxic drugs has to be mentioned.

xii. Mention to the logical sequence of operation and facilities.

xiii. Mention of proper pipe works, electrical supply wirings, and ventilation openings.

Quality Control Area

xiv. Its independent and self contained facilities have to be mentioned.

Major References

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Gene Therapy for HIV-1 Infection

Dirgha Raj Joshi.....✍
B. Pharm, 6th Sem, CCT

Introduction

The introduction of the highly active antiretroviral therapy (HAART) for the treatment of HIV-1-infection has dramatically improved the quality of life and the survival of HIV-infected patients by the suppress virus replication. Complete eradication of the virus by antiretroviral drugs has never been achieved and life-long treatment is required, with the presence of viral resistance and drug toxicity with long-term therapy. As a consequence, HAART has not had a major impact on the global prevalence of HIV-infection and there is no vaccine in sight that could prevent further virus spread.

In addition to HAART and vaccines, gene therapy approaches for HIV-1 infection overcome the limitations of standard antiretroviral drug therapy and facilitate sustained suppression of virus replication, with reduce toxicity and prevent the generation of resistant virus strains.

Two basic gene therapeutic strategies as, the first strategy aims to specifically kill HIV-infected cells by **enhancing the antiviral host immune responses** and the second approach, termed **'intracellular immunization',** is based on the expression of antiviral genes that prevent HIV-1 replication in its target cells.

1. Enhancing HIV-specific immunity: Adoptive transfer of CD8+ T cells:

Most affected individuals initially develop immunodominant CD8+ T cell responses during the acute phase of HIV-1 infection, resulting in transient virus control and a decrease in plasma viremia. There is a strong negative correlation between emergence of virus-specific CTLs and the viral set point, as patients with strong early CTL responses show significantly lower viral set points and a slower disease progression. However, later, during the chronic phase of HIV-1 infection generation of CD8+ T cell responses seems to be impaired and dysfunctional CTLs fail to control virus replication in most patients. In contrast, long-term non-progressors - individuals

which are HIV-1 seropositive, but do not progress to AIDS - retain high levels of virus-specific T cells, indicating that functional CTL responses are crucial for efficient virus control also in chronic infection.

2. Intracellular immunization: Protection of CD4+ T cells

It involves the expression of an antiviral gene in cells susceptible to HIV-1 infection. The gene product can either be a protein or an RNA that inhibits HIV-1 replication by interfering with crucial steps of the viral life cycle or by targeting a cellular factor required for virus replication.

➲ **Antiviral Proteins**

Various types of anti-HIV proteins have been developed over the past years. Dominant-negative forms of both, viral proteins and cellular proteins required for virus replication have been described. These dominant-negative mutant proteins antagonize the activity of their corresponding wild-type proteins and thus prevent viral replication. A transdominant form of the HIV-1 Rev protein, RevM10, has been extensively studied in vitro and in vivo. RevM10 prevents the export of genomic viral RNA from the nucleus and as a result inhibits production of progeny virus. In clinical trials genetic modification of CD4+ T cells and CD34+ hematopoietic stem cells with RevM10 has been shown to be safe and provide some selective survival advantage. Cellular proteins required for virus replication have also been targeted by dominant-negative mutants. Membrane expression of chemokine receptor 5 (CCR5), which acts as a co-receptor for HIV-1, has been blocked by transdominant negative CCR5 variants upon retroviral expression in human T cells.

The protein binds to the HIV-1 gp41 heptad repeat 1 region thereby interfering with six-helix bundle formation during the viral and cellular membrane fusion process. MaC46 expressing T cells are almost completely protected from HIV-1 entry and have a strong selective survival advantage compared to unmodified cells in vitro and in mouse models of HIV-1. A different protein-based approach for HIV-1 gene therapy uses antibodies that bind and inactivate proteins and enzymes required for virus replication.

Zinc finger nucleases (ZFNs) are a novel tool in protein-based HIV-1 gene therapy. ZFNs are artificial fusion proteins composed of a DNA-binding and a DNA-cleavage domain. They can be engineered to bind any desired genome sequence and induce double- strand breaks in the targeted DNA. Repair of the

damaged DNA is associated with the introduction of high-frequency deletions and insertions at the site of cleavage. Individuals with a naturally occurring 32 bp deletion mutant of the CCR5 receptor (CCR5?32) are perfectly healthy, but resistant to infection with R5-tropic strains of HIV-1.

➲ **Antiviral RNAs**

Antiviral RNAs for intracellular immunization can be grouped into four major categories: RNA interference (RNAi), ribozymes, anti-sense RNAs and RNA decoys. Several RNAi- based gene therapy regimens for treatment of HIV-1 infection have proven to be effective in blocking viral replication by selective degradation of either viral RNAs or mRNAs of host factors that are essential for HIV-1 replication. An alternative to the regular injection of exogenous siRNAs is the expression of shRNAs directly in the HIV-1 target cells, but achieving stable transgene expression in the gene-modified cells is a challenge. Yet, constant endogenous expression would be required to obtain efficient suppression of HIV-1 replication and prevent viral escape mutants. Antisense RNAs are short or long single-stranded RNA molecules binding to complementary HIV-1 mRNAs resulting in the formation of non-functional duplexes.

The mode of action: Classification of antiviral genes

Antiviral genes can accordingly be grouped into three classes, depending on their effect on the viral life cycle . **Class I genes** inhibit the first steps of the replication cycle prior to integration of the proviral DNA into the host cell genome and thus prevent infection of the cell.

Hence, class I includes genes encoding entry inhibitors, as well as inhibitors of reverse transcription and integration. **Class II genes** have no effect on early steps of the viral replication cycle, but prevent the expression of viral RNA or proteins. Thus, they inhibit the production of infectious virus progeny and the viral cytopathic effect, however, integration of the proviral genome into the host cell chromosomes is not hindered. **Class III genes** interfere with late steps in the viral life cycle such as virion assembly and budding. Consequently, they neither protect the infected cell from recognition by the immune system, as viral protein production is not inhibited, nor from the viral cytopathic effect. Therefore, class III genes alone are not expected to have an overall antiviral effect unless high percentages of cells are genetically modified. Inhibition of HIV-1 entry or

early steps of reverse transcription could protect the cells from these fatal effects, indicating that very early inhibitors are even more favorable, as they can prevent the massive "bystander" killing observed in HIV-1 infection.

Vector systems for gene transfer

The choice of the vector system may have a major impact on the efficacy of HIV-1 gene therapy approaches.

➲ Non-integrating viral vectors

The only vectors systems that currently allow direct in vivo gene transfer are non-integrating viral vectors. As their genome is not stably incorporated into the host cell chromosomes, these vectors have an improved safety profile compared to integrating vectors. Non-integrating vectors can also be used to deliver zinc finger nucleases, which require only transient expression, to diving cells.

➲ Targeted integration

Targeted integration of transgenes into the host cell genome is expected to massively increase safety. The CCR5 locus is considered to be a safe harbor for transgene integration, as a naturally occurring deletion of 32 bp in the coding sequence for CCR5 causes no clinical symptoms.

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यस **PHARMA MIRROR** को

पूर्ण सफलताको कामना गर्दछु ।

Laxman Bhattarai

Proprietor

OM SURGICAL & SCIENCE HOUSE

Jyotipath, Butwal-8, Rupandehi

Mob: 9857022570

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बुटवल-१३, देवीनगर

फोन : ०७१-४१०३४२

हामीकहाँ बोर्डिङ्ग स्कूल, क्याम्पस तहका सम्पूर्ण पाठ्य पुस्तकहरु, स्टेशनरी, खेलकुदका सामाग्रीहरु पाइनुका साथै फोटोकपी, लेमिनेशन, बाइन्डिङ्ग, रिर्चाच कार्ड तथा ब्यालेन्स ट्रान्फर पनि गरिन्छ ।

Medication Errors and its Prevention

Suvendra Pd. Yadav.....✍
B.Pharm, 6th Sem, CCT

Medication Errors:

According to the National Coordinating Council for Medication Error Reporting and Prevention (NCC MERP) definition: "A medication error (ME) is any preventable event that may cause or lead to inappropriate medication use or patient harm while the medication is in the control of the health care professional, patient, or consumer. Such events may be related to professional practice, health care products, procedures, and systems, including prescribing; order communication; product labeling, packaging, and nomenclature; compounding; dispensing; distribution; administration; education; monitoring; and use."

ME can occur at any stage in the drug use process, from prescribing to administration to the patient. They are responsible for about 25% of litigation/medicolegal cases against general practitioners

ME occur in about one out of every five doses given in hospitals approximately 98,000 death annually alone in US and in India come to about 720000 death annually. And in the contents of Nepal more than 70% ME occur (this is not accurate data)

Types of Medication Errors

1). Prescribing errors (49%) :

Most common type of ME.

Wrong dose e.g. the patient's dosage is calculated based on an old weight so the dose is too low or high.

Wrong rout e.g. intravenous drug prescribe for intramuscular administration.

Wrong patient e.g. A drug is prescribed for patient which was meant for patient B.

Wrong time e.g. the time at which the drug should be administratered and or stopped is written incorrectly or omitted altogether.

Wrong drug e.g. patient prescribed dexamethasone instead of prednisolone Poor handwriting e.g. A pharmacist dispensed dionil, an antdiabetic drug in place of diavol, as antacid due to prescription was poorly written. Other e.g. if use use a trailing zero (4.0 mg) in stead of use a leading zero (0.4mg).

Approaches to prevent the prescription errors :

An ideal prescription should have

- The doctor's full name with address contact number (printed on the letterhead)
- The doctor's qualification, registration number and full signature.
- Patient's full information including Name, age, sex, address, and contact number
- Name of medicine preferably generic name in capital, with brand name/company name in brackets
- Strength and potency of medicines. Dosages form (tablet, syrup, Injection, suspension) because at time, medicines are available in different forms leading to confusion to the pharmacist.
- Dosage and dosing instructions including route and frequency of administration,
- Purpose of medication and duration of therapy
- Electronic prescribing may help to reduce the risk of prescribing errors. Computerize physician order entry system.
- Avoid the use decimals-write 500mg instead of 0.5g. And never leave a decimal point naked-write 0.5mg instead of .5mg. Never use terminal zero-write 1mg instead of 1.0mg

2). Transcription errors (11%):

e.g. 550mg intravenous meropenem transcribed from a prescription which read 450mg. It is prevented by ensuring the prescription by transcriptors.

3). Dispensing errors (14%):

Dispensing Errors occur at any stage from the receipt of a prescription to the supply of a dispensed product to the patient. Dispensing Errors confusing the name of one drug with another. Two or more drugs have a similar appearance or similar name (look-a-like/sound-a-like). E.g. Lasix® (frusemide) and Losec® (omeprazole) Confusion also occurs between amiloride 5mg and amlodipine 5mg tablets.

Approaches to prevent dispensing errors

- Errors Ensuring a safe dispensing procedure.
- Using different brands or separating LASA (Look alike and Sound alike) products.
- Keeping interruption in the dispensing process to a minimum & maintaining the workloads of the pharmacist at a safe and manageable level
- Awareness of high risk drug such as potassium chloride and cytotoxic agents.
- Introducing safe systematic procedure for dispensing medicine in the pharmacy.

4). Administration errors (26%) :

Administration Errors Discrepancy between the drug therapy received by the patient and the drug therapy intended by the prescriber.

Types:

Omission Error e.g. : lack of stock, Extra Dose Error, Wrong dose error, Wrong route error e.g. Left eye instead of Right, Wrong rate error, Wrong dosage form e.g. Crushing tablets, Wrong time error, Wrong administration technique e.g. : Incorrect manipulation of Inhalers. Administration of expired drugs Administration of wrong preparation

Approaches to prevent drug administration errors

- Checking the patient's identity and ensuring the dosage calculations checked independently by another healthcare professional before the drug is administered.
- Ensuring the prescription, the drug and the patient in the same place so they can be checked against one another.
- Ensuring that medication is given at the correct time.
- Minimizing interruptions during drug rounds.

Avoiding medication errors:

Perform the "five rights" of medication administration every time- right patient using two identifiers, right drug, right dosage, right time, and right route.

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यमलाल भुसाल/विमला भुसाल

प्रोप्राईटर

एम.बि. सप्लायर्स

बुटवल-१३, देवीनगर (सि.सि.टी. कलेज अगाडी)

मो.: ९८४३१४८२५७ / ९८५७०३१७०५

हामीकहाँ ग्याँस, ग्याँस चुल्हो, ग्याँस पाइप तथा दाल, चामल, तेल सुपथ मुल्यमा पाइन्छ । साथै निशुल्क होम डेलिभरीको व्यवस्था छ ।

प्रो. हरि प्रसाद घिमिरे

देउराली मोबाईल

एण्ड

फोटोकपी सेन्टर

चौपारी स्थान, बुटवल-१३, देवीनगर

मो: ९८४७५८५५६, ९८६७१४७०४४

हामीकहाँ विभिन्न प्रकारका मोबाईल मर्मत गर्नुका साथै मोबाईलका सम्पूर्ण सामानहरु सुपथ मुल्यमा पाइन्छ ।

नोट : यहाँ फोटोकपी, लेमिनेशन तथा रिर्चाच कार्ड पनि पाइन्छ ।

DENTAL CARIES: The most common disease in the world

Dr. Sandesh Kumar Jha.....✍
Lecturer, CCT

Introduction:

The word dental denotes 'tooth' and caries denotes 'decay'. Dental caries is an infectious microbiological disease that results in localized dissolution and destruction of the calcified tissue of the teeth. Benjamin Franklinis said to have stated -'Hot things, sharp things, sweet things, cold things, all rot the teeth'. The introduction of sucrose into the modern diet has been associated with the increased caries prevalence.

Bacterial enzyme+ Fermentable carbohydrate = Acid

Acid+ Tooth= Dental Caries

Etiologic Factors:

i. Poor oral hygiene
ii. Viscous saliva and less secretion of saliva
iii. Microflora-Streptococcus mutans, lactobacilli, actinomyces
iv. Carbohydrate rich diet

Parts/Layers of Tooth (from outside to inside):

1. Enamel
2. Dentine
3. Pulp

Initially caries involves enamel, which does not contain any nerve so the person doesn't feel pain and sensitivity. When the caries involves dentin, where nerve endings are present the person start felling sensitivity to heat and cold. When the caries involves pulp, which is rich in nerves and blood vessels the person start felling severe pain. If treatment is not done at this stage, the infection spreads from tooth to the bone around the tooth and if infection spreads from bone to blood, it can be fatal sometimes. So dental caries should not be neglected. Treatment should be done as soon as possible.

Preventive Measures:

i. Tooth brushing
ii. Mouth rinsing
iii. Use of fluoridated toothpaste
iv. Water fluoridation in schools and communities
v. Regular oral health check up by dentist
vi. Limited consumption of Sweet, hot and cold foods/ drinks

DRUG DISCOVERY BY FORWARD AND REVERSE PHARMACOLOGY

Nilkantha Wosti.....✍
B.Pharm, 8th Sem.,CCT

Drug discovery is a very complex process which entails discovering new agents for the treatment or prevention of diseases and disorders. Despite the high level of advances in the understanding of the human body, from basic human physiology to the smallest level of the human genome, a potential agent still takes an upward of 15 years from pre-clinical study in the lab to the patient lying in a hospital. Only in understanding the various strategies that have been implemented for the development of clinically successful agents one can find the best approach for effective drug discovery. Recently, new terms have been coined to describe two approaches to the study of the interaction between organisms and chemical molecules used to alter the biochemical function of molecular targets: forward and reverse pharmacology.

Much of the drug discovery and development that is carried on today is based on forward pharmacology. In this approach, a molecular target instrumental in modulating an abnormal biological process is first identified. One then searches for a molecule that can either positively or negatively modulate this target, depending on the desired clinical outcome. Then often through the use of high-throughput screening of compound libraries, using the molecular target as "bait" to "hook" the potential therapeutic agent. Forward pharmacology is thus simply a target-based strategy.

Conversely, in reverse pharmacology, agents that have a history of therapeutic activity are used as a starting point for drug discovery. Documented medicinal compounds, often from traditional natural sources, have their active ingredients isolated, and these molecules are the basis for drug discovery. Reverse pharmacology often operates on three consecutive levels: experiential, exploratory, and experimental. Pharmacoepidemiology, or the study of the effects of drugs in a large human population, constitutes experiential reverse pharmacology. Information on traditional medicine including the illness or disease it is used to treat and any

potential side effects are gathered. In exploratory reverse pharmacology, extensive scientific study is conducted on these compounds to learn the mechanism of action and the targets of these agents. Human dose determination studies are also sometimes conducted. Experimental reverse pharmacology involves the opitmization of these chemical entities using computational chemistry to maximize activity, potency, or water solubility.

All in all, both forward and reverse pharmacology approaches have a place in drug discovery. However, all factors must be taken into consideration to determine which approach is best.

गजल

- Krishna Pd. Paudel

Pharmacy and Pharmacist

जब रोग लाग्दै जान्छ, तब तिम्रो चाह हुन्छ ।
लक्षणले शरीर जल्दा, तिम्रो महत्वको थाहा हुन्छ ।

रोगको निर्मुल गर्ने मुटु, आज विकसित नहुँदा ।
बिरामीको आत्मा रुदाखेरी, उपचारकै चाह हुन्छ ।

लक्षणसंगै जटिलता हुँदा, जीवन सिध्या थाहा हुन्छ ।
तै अवस्थाको रोकथाम र निर्मुल पनि उनकै चाह हुन्छ ।

नोबेल प्रोफेसन भने पनि व्यवस्थित कहिल्यै छैन ।
व्यवस्थित भई बिरामीको सेवा गर्ने हामीलाई चाह हुन्छ ।

रोग र मरणसँग जुध्नु पर्दा फर्मासिष्टको चाह हुन्छ ।
तब मात्रै फार्मेसी र फर्मासिष्टको महत्वको थाहा हुन्छ ।

हार्दिक बधाई

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श्री उमंग घिमिरे

Novel Emerging Polyclinic Pvt. Ltd. को व्यवस्थापन समिति अध्यक्ष हुनु भएकोमा हार्दिक बधाई तथा सफल कार्यकालको शुभकामना ।

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कक्षा धमाधम

भैरहेका छन

January, April 2015

एभरेष्ट मेघा एजुकेशन कन्सल्टेन्सी

बुटवल

फोन : ०७१-४१००४१

मो: ९८५७०३२२०२

'Meditation: The Future Medication'

Laxmi Shrestha.....✍
B. Pharm, 6th Sem, CCT

Meditation can be used as a technique or it can be a meditative life style. Medicine and meditation come from same root word 'medere' - making whole. Even Healing and Holy have the same origin. Meditation is found in all cultures, religions and regions, both West and East. The standard dictionary definition is 'thinking deeply or spiritually about a subject.' Meditation is the practice of focusing your attention and mind on something that makes to feel calm and relaxed and gives you clarity about your life. Well-known meditations include Raj Yoga, Mantra, Mindfulness, Vipassana, Transcendental Meditation, Kundalini, Sudershan Kriya, Kirtan Kriya, Sahaj Samadhi, Osho's Meditations, Silence, and Pranayama. Principles of meditation involve relaxation, oxygenation, imagery, visualization, concentration, self-hypnosis, cognitive restructuring, peak experiences and secretion of endorphins.

How does meditation work?

Meditation raises energy levels and strengthens the immune system to fight or ward off illnesses. It induces the relaxation response and associated psychophysiological processes. It acts on the Karmic/Sanskar levels to neutralize the causes and effects of illness. Meditation produces:

- Decreased heart rate and blood pressure.
- Increased blood flow to brain and heart.
- Positive changes in EEG, EMG and skin resistance.
- Improved sleep and digestion.
- Less irritability, anxiety and depression on rating scales.
- Less frequency and duration of illnesses.
- Decreased accidents and days lost at work.
- Improved interpersonal relationships.
- Improved scores on self-actualization inventories, and emotional and spiritual quotients.

Meditation, which has been with humanity for thousands of years and which has stood the test of time, is highly relevant today in the management of myriad illnesses, as well as for research into states of consciousness. The challenge in future will be to see how it can be used both as a stand-alone treatment and in conjunction with other medication. There is every reason to think that its place in 21sts century medicine will not be confined to alternative or complementary healthcare but available as a mainstream treatment.

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ले बहुबिचारहरूको प्रतिनिधित्व गर्ने गरी प्रकाशन गरेको
यस **PHARMA MIRROR** को पूर्ण सफलताको
कामना गर्दछु ।

खेम इन्टरप्राइजेज

बुटवल-८, मैत्रिपथ, फोन नं. ०७१-५४१५३७, ५४४७८५

औषधी तथा सर्जिकल सामानको थोक विक्रेता

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ले बहुबिचारहरूको प्रतिनिधित्व गर्ने गरी प्रकाशन गरेको

यस **PHARMA MIRROR** को पूर्ण सफलताको

कामना गर्दछु ।

मिर्मिरे ड्रग हाउस

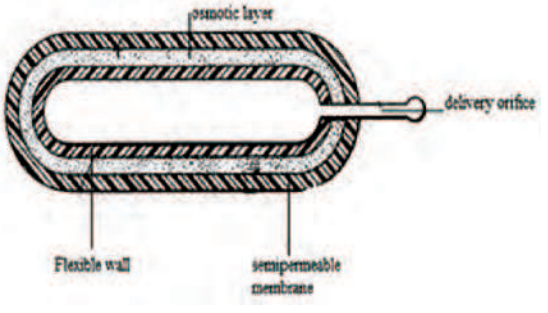
मैत्रिपथ, बुटवल-८, फोन: ०७१-५४३०८५, ५४४०८५

औषधी तथा सर्जिकल सामानको थोक विक्रेता

OSMOTIC PUMP DRUG DELIVERY- A NOVEL APPROACH

Shashi Chataut.....✍
Diploma in Pharmacy, Farwest School of Medicine, Mahendranagar

Conventional drug delivery systems have little control over their drug release and almost no control over the effective concentration at the target site. The major problem associated with conventional drug delivery system is unpredictable plasma concentrations. Osmotic devices are the most promising strategy based systems for controlled drug delivery. They are the most reliable controlled drug delivery systems and could be employed as oral drug delivery systems. In osmotic-controlled release oral delivery system (OROS), tablets coated with walls of controlled porosity are exposed to water, low levels of water soluble additive is leached from polymeric material i.e. semi permeable membrane and drug releases in a controlled manner over an extended period of time. Drug delivery from this system is not influenced by the different physiological factors within the gut lumen and the release characteristics can be predicted easily from the known properties of the drug and the dosage form. Osmptic pump drug delivery is designed for oral and parenteral dosage form.



TYPES OF OSMOTIC PUMPS

1. Osmotic delivery systems for solids
2. Osmotic delivery systems for liquids.

Advantages Of Osmotic Drug Delivery Systems

Osmotic drug delivery systems for oral and parenterals use offer distinct and practical advantages over other means of delivery. The following advantages have contributed to the popularity of osmotic drug delivery systems

1. The delivery rate of zero-order is achievable with osmotic systems.
2. Delivery may be delayed or pulsed, if desired.
3. Higher release rates are possible with osmotic systems compared with conventional diffusion-controlled drug delivery systems.
4. The release rate of osmotic systems is highly predictable and can be programmed by modulating the release control parameters.
5. For oral osmotic systems, drug release is independent of gastric pH and hydrodynamic conditions.
6. The release from osmotic systems is minimally affected by the presence of food in gastrointestinal tract.
7. A high degree of in vivo- in vitro correlation (IVIVC) is obtained in osmotic systems.

Limitations Of Osmotic Drug Delivery Systems

1. Special equipment is required for making an orifice in the system.
2. Residence time of the system in the body varies with the gastric motility and food intake.
3. It may cause irritation or ulcer due to release of saturated solution of drug.

हार्दिक शुभकामना

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निलकण्ठ ढकाल

प्रोप्राईटर

ढकाल प्लाष्टिक

बुटवल-१३, देवीनगर, रुपन्देही

मो.: ९८४७३२७६६१

यहाँ पर्दा, पर्दा पाइप, पर्दा सिलाई, सिरक डसना, कार्पेट, स्टील दराज, कुर्सी, पलङ्ग, डोर म्याट, कम्प्युटर टेबलका साथै घर अफिस सजावट का सामानहरु सुपथ मुल्यमा पाइन्छ ।

हार्दिक शुभकामना

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न्यू भैरव दर्शन सप्लायर्स

बुटवल-१३, देवीनगर, रुपन्देही

मो.: ९८४७१७२१४८, ९८०४१८५६६०

हामीकहाँ गुणस्तिरीय दाल, चामल, चक्की आटा, मैदा, चिनी, तेल तथा विभिन्न खाद्यान्न सामान सुपथ मूल्यमा पाइन्छ ।

एभिएन इन्फ्लूएन्जा, फाउल प्लेग, बर्डफ्लू

Dr. Prakash Kandel.....✍
Pet & Poultry Consultant

के हो ?

बर्ड फ्लू विषाणुबाट कुखुरामा देखा पर्ने अति संक्रामक एवं घातक रोग हो जुन रोगी कुखुराको प्रत्यक्ष सम्पर्कबाट मानिसमा सर्न सक्दछ । बर्ड फ्लू पहिलो पटक इटालीमा इस्वी संवत् १८७८ मा देखा परेको थियो भने हाल चर्चामा आएको एच ५ एन १ बर्ड फ्लू भाइरस पहिलो पटक दक्षिण अफ्रिकामा इस्वी संवत् १९६१ मा फेला परेको थियो।

रोगको प्रकृति अनुसार ल्याटिन भाषामा फाउल प्लेग अर्थात शाब्दिक अनूवादमा कुखुरामा देखा पर्ने महामारी रोग भन्ने गरिन्छ। अर्न्तराष्ट्रिय पशु रोग सूचना प्रणालीमा अति घातक एभियन इन्फ्लुएन्जा भनि चिनिन्छ । व्यावसायिक कुखुरा पालनमा यो आर्थिक दृष्टिले अति महत्वपुर्ण पंक्षी रोग हो र अर्न्तराष्ट्रिय स्तरमा सुचीकृत भएकोले सबन्धित राष्ट्रले रोग देखा परेको स्थितिमा तुरुन्तै खबर गर्नु पर्ने हुन्छ भने कुखुराको मासु, फुलको निर्यातमा प्रतिबन्ध लाग्ने भएकोले जति सक्दो चांडो नियन्त्रण र रोकथाम गर्नु राष्ट्रिय दायित्व हुन आउछ।

बर्ड फ्लू अति चांडो महामारीको रुपमा फैलिन सक्ने, विरामी दर र मृत्युदर बढी हुने, प्रभावकारी औषधीको अभावमा उपचारको क्रममा विरामी मर्न सक्ने, भ्याक्सिन बनाउन सकिने भएता पनि इन्फ्लूएन्जा भाइरसको जैविक संरचना चांडो परिवर्तन भइरहने भएकोले अरु रोगमा जस्तो प्रभावकारी हुँदैन।

बर्ड फ्लू विषाणु कसरी उत्पन्न हुन्छ र यसका जैविक विशेषता के हुन् ?

जैविक विशेषताको आधारमा बर्ड फ्लु टाइप ए इन्फ्लुएन्जा भाइरस समुहमा पर्दछ यसको विकास, सर्म्वधन र संरक्षणमा जंगली चराचुरुगी र पाल्तू पशुपंक्षीको भुमिका रहन्छ । खासगरी हांस, कुखुरा, बंगूर र घोडा नयां किसिमको मानवको लागि घातक इन्फ्लूएन्जा भाइरस टाइप ए उत्पन्न गराउन जिम्मेवार पाइएको छ । बर्ड फ्लूको सार्नमा जंगली चराचूरुगी, बसाइसराई गर्ने चराचुरुगी र पानीमा हूने चराहरुको महत्वपुर्ण भुमिका हुन्छ । यिनीहरुमा संक्रमण हुने, आन्द्रामा लामो समयसम्म बर्ड फ्लू भाइरस बाचिरहने र नयां स्थानमा स्थानीय कुखुरा जातीसंग सम्पर्कमा आउदा रोग सार्ने गर्दछ तर यिनीहरुमा रोगको लक्षण देखिने वा मर्ने गरेको पाइदैन।

सांस्कृतिक हिसाबले एशियाली मुलका मानिसहरुको मोह जिउंदो साखिनी कुखुरा माथि छ र नयां वर्ष लगायत अन्य अवसरमा यिनीहरुको व्यापक ओसारपसार, व्यापार दक्षिण चीन र हंगकंग बीच हुने गरेको पाइन्छ जुन कूरा यूरोप र अमेरिकामा हुने गरेको पाइदैन । अर्को कूरा, फ्रोजेन मिटले जसरी यूरोप र अमेरिकामा लोकप्रियता पायो, सास्कृतिक तथा परम्परागत सोचाईका कारण चीन, ताइवान, हंगकंग र दक्षिण एशियामा पाउन सकेको छैन । यस परिप्रेक्ष्यमा यस्ता जीवित पशूपंक्षी विषाणु तथा रोगाणुका लागी भरपर्दो सवारी साधन मात्र नभई जैविक समिश्रणको प्रयोगशाला मानिन्छन्।

सन् १९९७ मा देखा परेको हङकङ फ्लू भाइरसको सबन्धमा अनूसन्धानकर्ताहरुले यो विषाणु पानीहांसबाट संगै पालिने हांस, बंगूरमा र पछि कुखुरामा सरेको निष्कर्ष निकालेको थियो । यस बारे विशेष चर्चा हुनुको कारण हङकङ फ्लू रोगी कुखुराको सर्म्पकबाट सोझै मानिसमा सरेको पाइयो र यो नै नयां कुरा थियो।

सन् २००३ को मार्चतिर नेदरल्याण्डमा देखा परेको महामारीको रुपमा फैलिने अति घातक एभिएन इन्फ्लुएन्जाले विगतको सोचाई माथि प्रश्न चिन्ह खडा गरेको छ। रोग प्रभावित कुखुरा फार्ममा रोग नियन्त्रण कार्यमा संग्लन एक भेटरीनरी डाक्टर विरामी भई मरेको र निजको फोक्सोमा एभियन इन्फ्लूएन्जा भाइरस फेला पऱ्यो।

कुखुरामा इन्फ्लूएन्जा उत्पन्न गराउने विषाणु अति घातक र कम घातक गरी दूई समुहमा विभाजन गर्न सकिन्छ र मानवमा सर्न सक्ने बर्ड फ्लू भने अति घातक समुहमा पर्ने एच५ एन१ (एशिया) र एच ७ एन ७ (यूरोप) जिम्मेवार पाइएको छ। विधिको विडम्बना के छ भने कम घातक समुहमा पर्ने रोगाणु कतिपय अवस्थामा जैविक उत्परिवर्तनको माध्यमबाट अति घातक बन्न सक्दछन्।

रोग सार्ने कार्यमा रोगी कुखुराको सूलीको महत्वपुर्ण स्थान छ, एक ग्राम विषाणुयूक्त सूली १० लाख कुखुरालाई रोगी बनाउन काफी हुन्छ। कुखुराको सुलीमा मौसम अनुसार बढीमा ३ महिना रोगाणु जीवित रहन सक्छ भने पानीमा ४ दिन देखि ३० दिनसम्म जीवित रहन सक्छ।

कुखुरामा रोग लाग्दा कस्ता लक्षण देखा पर्दछन् ?

कुखुरामा देखा पर्ने एभिएन इन्फ्लूएन्जा लक्षणको आधारमा छुट्टयाउन त्यति सजिलो छैन किनभने रानीखेत र इन्फेक्सीयस ल्यारिङ्गो टुयाकेआइटिस (आई.एल.टी.) संग मिल्दोजुल्दो लक्षण विरामी कुखुराले देखाउंछ।

रोग देखा परेको क्षेत्रमा सबै उमेरका कुखुरा छोटो समयमा विरामी भई भकाभक मर्न थालेमा र निम्न लक्षणहरु देखिएमा एभियन इन्फलूएन्जा लागेको शंका गर्न सकिन्छ।

- टाउको सूनिने, सिउर र लोती फिक्का रंगको वा निलो देखिने।
- नाक र मूखबाट बाक्लो, रगत मिसिएको झोल निस्कने।
- हरियो रंगको सूली छेर्ने।

श्वासप्रश्वास सबन्धी लक्षणको बाहुल्यता हुने .

मान्छे मा लक्षणहरु

- ज्वरो आउने, खोकि लाग्ने, घाटी दुख्ने, मांसपेसिहरु दुख्ने, निमोनियाका लक्षण्हरु देखिने।

रोग सर्ने तरीकाहरु

- यो रोग मुलत रोगी कुखुराको च्याल, चर्केको फूल,मासु तथा सुलिकोबाट सर्छ।
- हावाको माध्यमबाट निरोगीमा सर्न सक्दछ
- प्रदुसित भाडँ, आहारा, सुलि, माटो, हावा तथा फोहर जुत्ता बाट पनि सार्न सक्दछ।
- रोगी मानिसको सर्म्पकबाट अन्यमा महामारीको रुपमा फैलिन सक्छ।
- बसाइ सरेर आउने चराहरुले पनि यो रोग सार्न सक्दछन।

कसरी सर्छ ?

यो रोग मुलत रोगी कुखुराको सर्म्पक तथा हावाको माध्यमबाट निरोगीमा सर्न सक्दछ र हेरचाह गर्ने मानिस प्रभावित हून्छ । रोगी मानिसको सर्म्पकबाट अन्यमा महामारीको रुपमा फैलिन सक्छ। रोगी कुखुराको विष्टा, चर्केको फुल रोगको श्रोत बन्न सक्दछ भने व्यापारको सिलसिलामा जीवित कुखुरा ओसारपसार गर्ने क्रममा बजार क्षेत्रमा देखा पर्न सक्छ। सरसफाई र जैविक सुरक्षा (बायो सेक्युरिटी) मा उचित ध्यान नदिइने अवस्थामा यो रोग अति छिटो सर्न सक्छ।

बर्ड फ्लू महामारी नियन्त्रण र उन्मुलनको आर्थिक

दायित्व कति ?

विश्व व्यापारमा स्वदेशी कुखुराबाट उत्पादित चल्ला, फूल, मासु र यिनबाट उत्पादित मानव खाना माथिको प्रतिबन्ध चाडै हटोस् र यो विषाणुको कारण मानव महामारी नफैलियोस् भनेर रोग नियन्त्रणको नाममा रोग देखा परेको क्षेत्रलाई निषेधित क्षेत्र घोषित गरी असंख्य कुखुरा मारिन्छ। विश्वमा आजसम्म बर्ड फ्लूले देखाएको आर्थिक तथा जन स्वास्थ्यको क्षेत्रमा देखाएको दूष्परिणामका रोचक तथ्य प्रस्तूत गरिएको छ।

सन् १९९७ मा हंगकंगमा बर्ड फ्लूबाट संक्रमित १७ विरामी मध्ये ३ को मृत्यू भएको थियो । पन्ध्र लाख कुखुरा मारिए भने सन् १९९७ यता बर्ड फ्लू उन्मुलनको नाममा अझै पनि लाखौं कुखुरा वर्षेनी मार्नु पर्ने स्थिति विद्यमान छ।

सन् २००३ मा हल्याण्डमा देखा परेको एभिएन इन्फ्लूएन्जा उन्मुलनको लागी १ करोड ८० लाख कुखुरा मारिए र यस्को लागी एक खरब एकतीस करोड (एक अरब ४० करोड यूरो) खर्च लागेको अनुमान छ। सो महामारीको क्रममा ८२ जना मानिसमा संक्रमणको कारण आंखा सुनिने रोग लागेको र ३ जना विरामी मरेको पाइयो।

उपचार संभव छ ?

साधारणतः भाइरल इन्फ्लूएन्जाको लक्षण अनूसार उपचार गर्ने चलन छ। इन्फ्लूएन्जा ए भाइरसको कारण महामारी फैलिएको ठहर भएमा रोग रोकथाम तथा उपचारका लागी ३ वटा औषधी सिफारिश गरिएको छ । अमानटिडिन र रिमानटिडिन सर्वाधिक प्रयोगमा रहेका औषधी हुन जस्ले भाइरस कोषभित्र पस्नबाट रोक्छ र साथै संक्रमण तथा प्रसारण कार्यमा अवरोध सृजना गर्दछ । तर यस्को प्रयोगबाट पार्श्व प्रभाव हुने गरेको पाइन्छ । विश्व बजारमा जानामिभीर र ओसिलटामिभिर भन्ने औषधी पनि पाइन्छ जुन मानिस र पशुको लागी प्रयोग गर्न सकिने र खासै पार्श्व प्रभाव नहुने दावी गरिएको छ । तर यी औषधी अति महंगो पर्ने भएकोले सर्वसाधारणको पहूंच हुन सक्ने कुरा शंकास्पद छ।

भ्याक्सिन कति प्रभावकारी हून्छ ?

टाइप ए इन्फलुएन्जा भाइरस विरुध्द भ्याक्सिन बनाउन सकिने भएता पनि इन्फ्लूएन्जा भाइरसको जैविक संरचना चांडो परिवर्तन भइरहने भएकोले अरु रोगमा जस्तो प्रभावकारी हुँदैन र बढीमा एउटा महामारीको लहर रोक्न कारगर हुन सक्छ । यसै कूरालाई दृष्टिगत गरी अर्न्तराष्ट्रिय स्तरमा भ्याक्सिन बनाउन उपयुक्त इन्फ्लूएन्जा भाइरसको सिफारिश वर्षेनी आयोजना गरिने विज्ञहरुको सम्मेलनले गर्दछ । जैविक सूरक्षाको कारण भ्याक्सिनमा प्रयोग गरिने टाइप ए इन्फ्लूएन्जा भाइरसलाई निस्क्रिय तुल्याइएको हुन्छ।

यस्ता खतरनाक रोग रोकथामका लागी के आवश्यक छ ?

यो रोग असावधानी वा कुनै कारणले कुनै पनि व्यावसायिक कूखूरापालन विकसित भएका देशमा देखा पर्न सक्ने तथ्यलाई नकार्न सकिदैन र नेपाल अपवादमा पर्दैन । अर्को कुरा, अनुभवले के देखाउछ भने महामारी, दैवी आपत्ति भन्ने कुरा अग्रिम जानकारी दिएर आउदैन । खुला सीमानाका कारण जतिसुकै सक्षम क्वारेन्टिन पध्दति विकसित गरिए पनि यस्ता रोग भविष्यमा भित्रिन सक्ने कुरालाई नर्कान सकिदैन।

यस्ता महामारी प्रकृतिका रोग नियन्त्रण र रोकथामको प्रमूख जिम्मेवारी राष्ट्रिय सरकारको हुन्छ । अतः जन स्वास्थ्य तथा आर्थिक दृष्टिले महत्वपुर्ण बर्ड फ्लू केही गरी देखा परेमा तत्कालै नियन्त्रण र रोकथामको लागी आपतकालिन तैयारी योजना सरकारसंग हुनु जरुरी छ । यस्तो कार्य योजनाले वैधानिकता पाएको हुनु पर्दछ, आपतकालिन बजेट निकासा, अन्तर निकाय समन्वय र सहयोगका कुरा, निजी क्षेत्रको भूमिकाका सबन्धमा स्पष्ट किटान सहित उल्लेख भएको हुनु पर्दछ।

रेबिज रोगले जनस्वास्थ्य तथा पशुहरूमा पनि असर

Dr. Birendra Shrestha.....
Pet & Poultry Consultant

परिचयः

रेबिज भाईरस (च्याब्डो/लिसा) बाट संक्रमित पशुहरुको टोकाइबाट मानिस, गाई, भैंसी, भेडा, बाख्रा, सुंगुर इत्यादीमा सर्ने ज्यादै खतरनाक प्राणघातक रोग हो । पशुबाट मानिसमा सर्ने भएकोले यस रोगलाई जुनोटिक मानिन्छ । यो रोग आजभन्दा ४००० बर्ष पहिले नै पहिचन गरिएको थियो । अष्ट्रेलिया, न्यूजिल्याण्ड, जापान जस्ता मुलुकहरुमा यस रोगबाट मुक्त भएपनि विश्वका अन्य मुलुकहरु जस्तै दक्षिण, पूर्वी, एशिया, अफ्रिका, ल्याटिन, अमेरिका इत्यादिमा रोग रोग अझै पनि डर लाग्दो समस्याको रुपमा समाजमा व्याप्त छ । विश्व स्वास्थ्य संघको तथ्याङ्क अनुसार विश्वभरिमा प्रति बर्ष करिब ५५००० मानिसहरुको मृत्यु रेबिजबाट हुने गरेको पाईन्छ, जसमध्ये अफ्रिका र एशियाका जनसमुदाय बढी प्रभावित हुने गरेको पाईन्छ।

रोग सर्ने तरिकाः

बहुलाएको कुकुर वा चमेरो र जंगली पशुको च्यालमा रेबिज रोगको बिषाणुहरु (भाइरस) हुन्छन् । बहुलाएको कुकुरले जब मानिस वा कुनै पशुलाई टोक्दछ यो रोग उक्त मानिस तथा पशुमा सर्दछ। त्यस्तै कोतारिएको आलो घाउमा रेबिजको बिषाणु पर्न गएमा सिधै स्नायु प्रणालीमा असर गर्दछ र सोही प्रणाली हुदै मस्तिष्कसम्म पुग्दछ र रोगको लक्षण देखा पर्न थाल्दछ। यसबाहेक उक्त भाइरस आँखा, मुखको भित्र भागमा टासिन पुगेमा पनि यो रोगको प्रभाव देखिन सक्छ। रेबिज भएको मानिसको आँखा अर्को मानिसमा प्रत्यारोपण गरिएमा पनि यो रोग सर्न सक्दछ। तर उमालेको दुध, पिसाब, गोबार इत्यादिबाट यो रोग सरेको पाइएको छैन।

रोग सर्ने अवधी (Incubation Period)

यदि रेबिज रोग लागेको पशुले कुनैपनि जीविक प्राणीलाई घाटी भन्दा माथि अर्थात टाउकोमा टोक्यो भने १-४ हप्तासम्ममा रेबिज लाग्न सक्दछ भने शरिरको अन्य भाग जस्तै हातखुट्टा, पिडालु या अन्य कुनै भागमा टोकेमा १-६ महिना वा एक वा एक भन्दा बढि बर्षसम्मा रेबिज रोगको लक्षण देखा पर्न सक्दछ।

मानिसमा देखिने रेबिज रोगका लक्षणहरुः

मनिसको शरीरमा रेबिजको भाइरस प्रवेश गरेदेखि रोग देखा पर्न करिब ३०-६० दिन लाग्छ तर कम्तिमा १० दिनमै वा कहिलेकाहि बर्षौं पछि पनि यो रोग देखा पर्न सक्छ। प्राय मानिसमा टोकेको ठाउँमा दुख्ने झम्झमाउने एक्कासी चिलाउने जस्ता लक्षण देखिन्छ । त्यसपछि ज्वरो आउने, जाडो लाग्ने, थकित हुने, मांसपेशी दुख्ने र झर्कने जस्ता लक्षण देखिन्छ। क्रमशः बिरामी दिग्भ्रमित हुने, बाझिने, बिना कारण काम्ने तथा बेसुरो हुने लक्षण देखिन्छ । त्यस्तै मुखबाट गाज निकाल्ने, पंखाको हावाबाट डराउने (Aerophobia), उज्यालोबाट डराउने (Photophobia) र पानी देखि डराउने (Hydrophobia) जस्तो लक्षण देखिन्छ । यस्तो अवस्थामा पुगेका बिरामी प्राय बाच्दैनन्। अन्तमा श्वास फेर्न गाह्रो हुने, पानी तथा खानेकुरा निल्न नसक्ने, पक्षघात हुने भई बिरामीको मृत्यु हुन्छ।

जनावरमा देखिने रेबिज रोगका लक्षणहरु

जनावहरुमा पनि माथि उल्लेख गरे अनुरुपका लक्षणहरु देखा पर्दछन्। त्यसबाहेक रेबिज रोगले ग्रसित जनावरहरु बिरामी परे जस्तो देखिने, रिसाहा हुने, झोक्रिने, जे पायो त्यो टोक्ने स्वभावका हुन्छन् । पशुहरुमा देखिने यिनै बाह्य लक्षणका कारण यो रोगलाई सामान्य बोलीचालीको भाषामा बहुला कुकुर भनिएको

हो । त्यस्तै कुनै कुनै जनावरहरुले अनावश्यक रुपमा एकदमै मैत्री स्वभाव देखाउने, लोसे र शान्त हुने तथा दिग्भ्रमित हुने लक्षण देखाउन सक्छन् । प्रायः रात्री कालिन समयमा विचरण गर्ने जंगली जनावर दिउसै वस्तीमा भौतारिन् थालेमा र सामान्य अवस्थामा शान्त रहने जनावरले अनौठो व्यवहार देखाएमा वा अति नै मैत्री स्वभाव देखाएमा त्यस्तो जनावरलाई रेबिज रोग लागेको शंक ागर्न सकिन्छ। अन्तमा रेबिजबाट ग्रसित जनावरको पनि मृत्यु निश्चित छ।

उपचारः

रेबिज रोग लागिसकेपछि यसको कुनै पनि उपचार हालसम्म पत्ता लगाउन सकिएको छैन। तसर्थ रेबिज रोग लाग्नु अघि नै यस्को रोकथाम गर्नु अति महत्वपूर्ण छ।

रोकथामका उपायहरुः

- रेबिज शंकास्पद पशुले टोकेको घाउलाई तुरुन्तै साबुन पानीले राम्ररी पखाल्ने । त्यस्तो तातो पानीले त्यसलाई धुने । धोइसकेपछि टिन्चर आयोडिन वा डिटोल घाउमा लगाउने।
- घाउलाई नसिलाई वा पट्टि नबाधी खुल्ला रुपमा राख्ने।
- शंकास्पद पशुलाई निरिक्षणको लागि १०-१४ दिनसम्म अलग राखी अलग दानापानी दिने।
- तुरुन्त स्वास्थ्य चिकित्सकसंग सल्लाह गरी भ्याक्सिन लगाउने।
- यदि घाउ टाउको नजिकै छ भने रेबिज इम्युनोग्लोबिन सिरम चिकित्सकको सल्लाह अनुसार लगाउने।
- घरपालुवा कुकुर तथा अन्य पशुहरुलाई रेबिज बिरुद्ध खोप नियमित रुपमा लगाईदिने । साथै यस्ता घरपालुवा पशुहरुलाई जंगली जनावर तथा भुस्याहा कुकुरहरुको सम्पर्कबाट जोगाउने।
- टोल, छिमेक, गाउँ तथा शहरमा यस्ता रेबिज शंकास्पद जनावरहरुको बिगबिगी बढेमा यिनीहरुको उचित व्यवस्थापन गर्न सम्बन्धित सरकारी, गैरसरकारी संघ संस्था आदिलाई नियन्त्रणको लागि तुरुन्तै खबर गर्ने।

कुकुरको टोकाइबाट बच्ने उपायहरु

- रेबिज रोग कुकुरबाट मानिसमा सर्ने जुनोटिक रोग भएकाले यसबाट बच्न कुकुरको टोकाईबाट बच्न अति महत्वपूर्ण छ जसका लागि निम्नानुसार उपायहरु अपनाउन सकिन्छ।
- कुकुरको वरिपरि दौडिने वा छिटो छिटो हिड्ने नगर्ने।
- कुकुरको आखामा सिधै जुधाएर नहेर्ने।
- कुकुर दौडिएर नजिक आउँदा आत्तिएर नदौडने बलस्थिर भएर बस्ने र भुईतिर हेर्दै विस्तारै हिड्ने।
- खाना खाइरहेको, सुतिरहेको वा छाउरा छाउरीहरुलाई हेरचाह गरिरहेको कुकुरलाई कहिल्यै नजिस्काउने।
- बाँधेको वा गेटभित्रको कुकुर नजिक नजाने।
- यदि केही गरी कुकुरले आक्रमण गरेमा ढुङ्गाजस्तो भएमा भुईमा गुडुल्कीएर आफ्नो अनुहार र टाउको बचाउने।

हार्दिक शुभकामना

Crimson Association of Pharma Students

(CAPS) *ले बहुबिचारहरूको*

प्रतिनिधित्व गर्ने गरी प्रकाशन गरेको

यस **PHARMA MIRROR** *को*

पूर्ण सफलताको कामना गर्दछु ।

शिमा यादव

प्रोप्राईटर

शिमा दुग्ध सप्लायर्स

बुटवल-१३, देवीनगर, चौपारी स्थान

मो.: ९८५७०३१७१५, ९८०६६०२७८०

यहाँ दुध, दही, पनिर, ध्यू, खुवा तथा दुग्धबाट बन्ने सम्पूर्ण परिकार पाईन्छ ।

SMOKING LOWERS THE BITTER TASTE BUDS

Prawin Kumar B.K.....✍
B. Pharm, 6th Sem, CCT

Cigarette smoking not only causes cancer and cardiovascular disease, it also dulls taste, making food less palatable.

Though conventional pairing has cigarettes and coffees going together, researchers have found that the toxic chemicals in tobacco may hamper taste bud regeneration, resulting in smokers not being able to adequately taste the bitterness of their regular cup of joe. Tobacco's chemicals are causing a loss of taste in smokers, as well as structural changes to the fungiform papillae of the tongue - where taste buds are found. Taste buds are largely responsible for conveying sweet, sour, bitter, salty and metallic sensations. Smokers may not be able to fully taste the bitterness of coffee.

The action of taste is actually a combination of the work of the taste buds on the tongue and the olfactory senses of the nose. The smoker places the taste buds in contact with chemical compounds that tend to blunt the ability of the buds to register the four basic tastes that the system is designed to recognize. The chemicals do not completely destroy the ability of the taste buds to recognize salty, sweet, sour and bitter tastes. However, the degree of recognition is greatly decreased At the same time, smokers also inhale and exhale the smoke from cigarettes through the nose and mouth. The chemicals in the cigarettes also dull the ability of the

olfactory nerves to register the aromas of foods as well. Because our sense of taste is actually a combination of both taste and smell, smoking tends to lead to an impaired sense of taste by interfering with both forms of sensory recognition.

This loss of taste is usually a gradual process, so the smoker does not realize that he or she is no longer obtaining the same level of enjoyment from food. In fact, the food may still register enough of a sense of taste to be very enjoyable even to someone who has smoked for years. Thus, the smoker is likely to be unaware that an his or her sense of taste has been compromised.

Fortunately, this impaired sense of taste is not permanent. Many people who quit smoking notice that within as little as two days after smoking that last cigarette that the aroma and taste of food becomes much more powerful and distinct. This is because the taste buds and the nerve endings in the nose begin to wake up or regenerate from the depression that was caused by the chemicals in the cigarettes. As time goes on, the impairment of taste is completely reversed, and it is possible once more to enjoy all the flavors and smells associated with favorite dishes.

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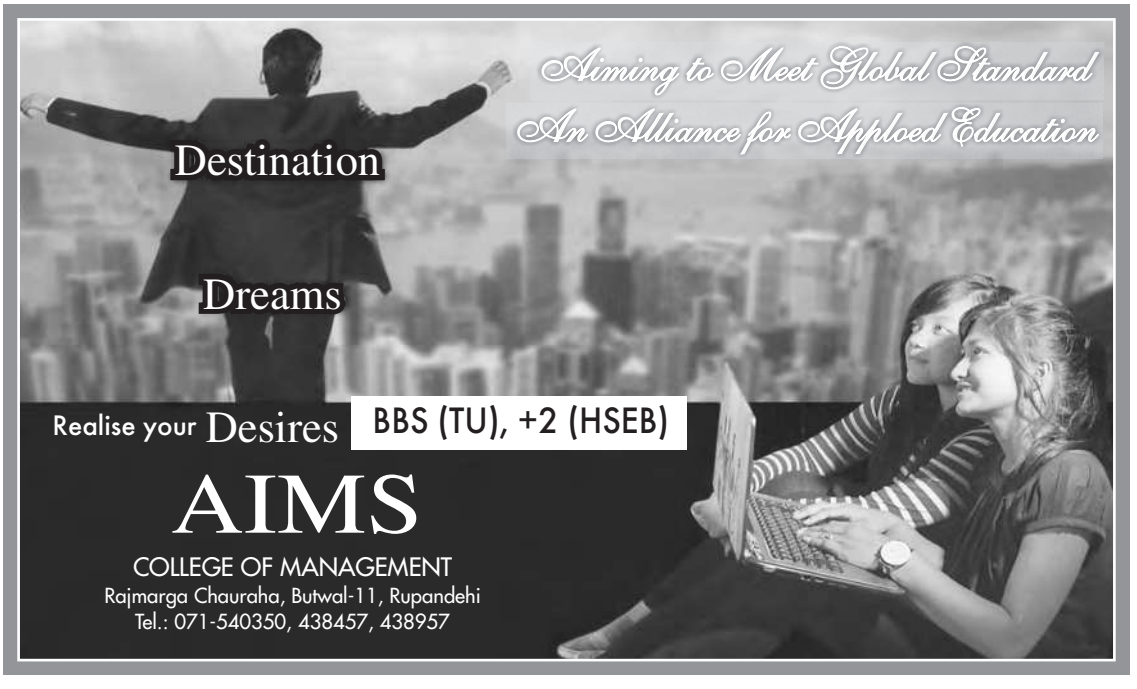

THE ROLE OF DENTAL PLAQUE TO CAUSE HEART DISEASES

Sushma Pariyar.....✍
Kathmandu Model Hospital of Oral Helath, KTM

Plaque

Dental plaque consists of extracellular matrix (tissues) and microorganisms, especially anaerobic bacteria (actinobacteria and fusobacteria) and *Streptococcus mutans*. Tissue material involved plaque production contains lipids, proteins and long chain polysaccharides. Normally, naturally formed plaque is harmless and is beneficial in preventing harmful microorganism from attacking teeth and gums. However, plaque is allowed to harden due to not brushing every day, it begins to thicken, developing layers that become more difficult to removes time goes by.

Periodontal disease can affect your overall health. Over time, it may increase the risk for heart disease and stroke. Several studies have shown that people with periodontal disease may be more likely to have coronary artery disease than people with healthy mouths.

Two possible ways to explanations for this association

1. One is that the bacteria that cause periodontal disease can release toxins into or travel through the bloodstream and help to form fatty plaques in the arteries. The immune system's response to these toxins could harm vessel walls or make blood clot more easily. These plaque deposits can lead to serious problems, such as blood clots, which can block blood flow.
2. The other explanation is that these bacteria cause the liver to make high levels of certain proteins, which inflame the blood vessels. Inflammation eventually could lead to a heart attack or stroke.

Symptoms of periodontal disease include:

- Persistent bad breath Red
- Swollen or tender gums
- Gums that bleed when you brush your teeth
- Gums that have pulled away from the teeth

- Loose teeth
- Change in the way your teeth come together when you bite down

If you have such symptoms of periodontal disease, see your dentist soon for treatment.

How to prevent plaque:

- To prevent plaque buildup, brush your teeth at least twice a day with a soft, rounded-tip bristled toothbrush. Pay particular attention to the space where the gums and teeth meet. Use a fluoride-containing toothpaste.
- Floss between teeth at least once a day to remove food particles and bacteria.
- See your dentist or oral hygienist every 6 months for a check-up and teeth cleaning.
- Ask your dentist if a dental sealant is appropriate for you. Dental sealants are a thin, plastic coating that are painted on the chewing surfaces of teeth to protect them from cavities and decay.

Eat a balanced diet and limit the number of between-meal snacks. If you need a snack, choose nutritious foods such as plain yogurt, cheese, fruit, or raw vegetables. Vegetables, such as celery, help remove food and help saliva neutralize plaque-causing acids

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***Crimson Association of Pharma Students* (CAPS)** ले बहुबिचारहरूको प्रतिनिधित्व गर्ने गरी प्रकाशन गरेको यस **PHARMA MIRROR** को पूर्ण सफलताको कामना सहित विजया दशमी तथा शुभ दिपावली २०७१ सालको पावन अवसरमा सम्पूर्णमा हार्दिक मंगलमय शुभकामना ।

नोभेल इमर्जिङ्ग पोलिक्लिनिक प्रा. लि.

बुटवल-१०, मिलनचोक, फोनः ०७१-५४७४५०

दैनिक सेवाहरु

- मुटु दुख्ने, मुटुको ढड्कन बढ्ने, छिनछिनमा वेहोस हुने, डराउने तथा Pressure सम्बन्धि समस्याको उपचार तथा परामर्श सेवा उपलब्ध छ ।
- महिला रोग विशेषज्ञ सेवा
- फिजिसियन सेवा
- २४ घण्टा इमर्जेसी सेवा
- प्याथोलोजी सेवा
- फार्मेसी सेवा
- ECHO & ECG सेवा
- भिडियो एक्स-रे तथा एक्स-रे सेवा

गुणस्तरको पर्याय बनोस् काउन्सिल परीक्षा

किरण ढकाल....✍
अध्यक्ष, नेपाल फार्मास्यूटिकल एशोसियशन, लुम्बिनी शाखा, बुटवल

स्वास्थ्य शिक्षा अनिवार्य र अपरिहार्य भइरहेको समयमा स्वास्थ्य शिक्षा भित्रको फार्मेसी शिक्षाको पनि महत्व बढ्दै गइरहेको छ । यही महत्वलाई मध्यनजर गर्दै नेपाल सरकार, शिक्षा मन्त्रालयले औषधी सम्बन्धि सम्पुर्ण कार्य गर्न गराउन न्युनतम योग्यताको आवश्यकता महसुस गरी CTEVT लाई SLC उतीर्ण पछि ३ वर्षे डिप्लोमा इन फार्मेसी कोर्ष डिजाइन गरी संचालन गर्न अनुमति प्रदान गर्यो । विज्ञ जनशक्ति, आधारभुत आवश्यकताका पुर्वाधार, Micro syllabus आदिको अभावको वावजुत फार्मेसी शिक्षा पठन पाठन सुभारम्भ भयो। यो फार्मेसी सेवा संचालनका क्रममा सम्बन्धित सरोकारवाला निकायको अदुरदर्शी नीतिले विद्यार्थी, संस्था संचालक सबैलाई अप्ठ्यारोमा पारेको छ । CTEVT ले हचुवाको भरमा कोर्ष डिजाइन गरेपछि त्रिभुवन विश्व विद्यालयले उच्च शिक्षा अध्ययन गर्न रोक लगायो । लाखौँ विद्यार्थीहरुको भविष्य माथि खेलवाड गर्ने कार्य भएपछि विद्यार्थीहरु एकबद्ध भई डिप्लोमा इन फार्मेसी स्टुडेन्ट एशोसिएसन अफ नेपाल (DPSAN) गठन गरी उच्च शिक्षा पढ्न पाउनु पर्छ भन्दै आन्दोलित भए। देशभरि रहेका २१ वटा फार्मेसी कलेजका विद्यार्थीहरु राजधानी केन्द्रित आन्दोलन गरे र ५४ दिनसम्मको रिले अनसन, बालुवाटार घेराउ, डेलिगेशन लगायत पछि बाध्य भई नेपाल सरकारको क्याविनेट बैठकले उच्च शिक्षा पढ्न पाउने निर्णय गरिदियो । वर्षमा दुई तीन पटकसम्म कथ बिदगक परिवर्तन गरि विद्यार्थीहरुलाई दुख दिने काम भएपछि फेरि पनि डिप्सानको नेतृत्वमा स्तर उन्नति, परिक्षा नियन्त्रणको माग लगायत थुप्रै माग राखि २१ जना साथीहरु CTEVT को प्राङ्गणमा आमरण अनसन बस्ने काम भयो । आन्दोलनको सातौँ दिन CTEVT सँग मागहरुको विषयमा सम्झौता गरि परिक्षा नियन्त्रक राख्ने सहमति भयो। त्यसपछि फेरि नयाँ ओरियन्टेशन खोल्न खोज्ने खेलो शुरु भयो । करिब करिब निर्णय नै भइसकेको यो फार्मेसी पेशामाथिको ठुलो बज्रपात NPA, DPSAN लगायत फार्मेसी पेशासँग सम्बन्धित विभिन्न संघ संगठनहरुको संयुक्त आन्दोलनले सफल हुन सकेन । नेपालको स्थिर राजनैतिक अवस्था र सरकार परिवर्तनसँगै हरेक पटक नयाँ ओरियन्टेशनको खेलो मञ्चन भइरहने यो परिस्थितिलाई फार्मेसी पेशासँग सम्बन्धित संघ संगठनहरुले राम्रै झापड दिएको अवस्था छ।

यी यस्ता थुप्रै चुनौती, आरोह अवरोहहरु पार गर्दा डिप्लोमा इन फार्मेसी शिक्षा संचालनमा आएको १ दशक पुरा भएको छ । यो अवधिमा अनुगमन र निरीक्षणका नाममा धेरै कार्यहरु भए । जे जति अनुगमन र निरिक्षण भए पनि फार्मेसी शिक्षामा हुनुपर्ने न्युनतम मापदण्ड र गुणस्तरको विषयमा प्रश्न चिन्ह भने उठ्ने गरेको छ । यो परिस्थितिमा नेपाल फार्मेसी परिषदले विभिन्न निकायको सहयोग र समन्वयमा डिप्लोमा इन फार्मेसी र बी.फार्मेसी उत्तीर्ण गरिसकेपछि पनि काउन्सीलबाट प्रमाण पत्र लिनको लागि परीक्षा दिनुपर्ने प्रावधान राख्ने निर्णय गरेको छ । गुणस्तरको प्रश्नमा यो कदमले राम्रो सन्देश दिएको छ भने न्युनतम मापदण्ड र आधारभुत आवश्यकताको विषयमा भने समस्या जहाँको त्यहीँ छ । फितलो अनुगमनका कारणले यो समस्या

समाधान हुन सकेको छैन । CTEVT र काउन्सिलबाट वर्षमा २र३ पटक अनुगमन र निरिक्षण नभएको भने होइन । कक्षा संचालनका क्रममा विद्यार्थीहरुलाई विभिन्न खाले अप्ठ्याराहरुको सामना गर्नु परिरहेको सर्वविधितै छ । कक्षा कोठा राम्रो नहुने, एउटा कोठामा पढाएको अर्को कोठामा सुनिने, लाइब्रेरीमा पुस्तक नहुने, ल्याब गर्न नपाइने, ल्याब भएपनि आवश्यकता अनुसारका सामान तथा Chemical नहुने, दक्ष जनशक्ति नहुने, वर्षभरिको कोर्ष अतिथि शिक्षक बोलाएर ४ र ५ दिनमा सम्पन्न गर्ने, खेल मैदान नहुने, आदि समस्याहरु विद्यार्थीहरुले भोगिरहनु परेको छ । विद्यार्थीहरुले दैनिक जसो भोगिरहने यस्ता खाले समस्याहरुमा कसैको चासो गएको पाइदैन । गुणस्तरीय शिक्षाका लागि न्युनतम आवश्यकताहरु अनिवार्य हुन्छ । सबै क्षेत्रको आआफ्नै काम, कर्तव्य र अधिकार हुन्छ । अधिकार मात्र खोजेर हुँदैन । डिप्लोमा फार्मेसी अनुमति प्रदान गर्ने CTEVT, B. Pharm, M. Pharm र Pharm D. अनुमति प्रदान गर्ने विश्व विद्यालय र निरिक्षणको जिम्मेवारी पाएको नेपाल फार्मेसी परिषद दुवै निकायले आआफ्नो काम, कर्तव्य र अधिकारलाई ध्यानमा राखेर अगाडि बढ्ने हो भने फार्मेसी व्यवसाय संचालन गर्न न्युनतम योग्यता बोकेको डिप्लोमा इन फार्मेसी र विज्ञ जनशक्ति (B. Pharm, M. Pharm / Pharm D.) गुणस्तरिय नहुने कुरै छैन ।

नेपाल फार्मेसी परिषद्ले सिघ्र संचालन गर्न लागेको काउन्सिल परिक्षाको कदम स्वागत योग्य छ । यो परिक्षा प्रणाली सँगसँगै शिक्षण संस्था न्युनतम मापदण्ड निरिक्षण र अनुगमनलाई पनि व्यवस्थित र मर्यादित बनाई, डिप्लोमा इन फार्मेसीको कोर्ष परिमार्जन गरि, Good Pharmacy Practice (GPP), Good Dispensing Practice (GDP) लगायतको व्यवहारिक तालीम अनिवार्य व्यवस्था गरेमा काउन्सिल परिक्षा गुणस्तरको पर्याय बन्ने निश्चित छ ।

NINE STRANGE DISEASES

Sharmila Gyawali.....✍
B.Pharm, 6th Sem.,CCT

1. Elephantiasis: grossly enlarged members

Lymphatic filariasis is caused by parasitic worms, including *Wuchereria bancrofti*, *Brugia malayi*, and B. timori, all transmitted by mosquitoes. When an infected female mosquito bites a person, inject the worm larvae, called microfilariae, into the blood. Often disease symptoms do not appear until years after infection. The most visible signs of infection are excessively enlarged arms, legs, genitalia, and breasts.

2. Progeria: the 80-Year-Old Children

Progeria is caused by a single tiny defect in a child's genetic code, but it has devastating and life-changing consequences. On average, a child born with this disease will be dead by the age of 13.

3. Werewolf Syndrome: the wolf people

The disease is called werewolf syndrome because people with it look like werewolves - except without the sharp teeth and claws.

4. Blue Skin Disorder: the blue people

People were the blue Fugates. Most of them lived past the age of 80, with no serious illness - just blue skin.. People with this condition have blue, plum, indigo or almost purple skin.

5. Pica: the urge to eat non-food substances

People diagnosed with Pica have an insatiable urge to eat non-food substances like dirt, paper, glue and clay. Though it is believed to be linked with mineral deficiency, there is no real cause and no cure for this disorder.

6. Vampire Disease: pain from the sun

Most people are engaged in indoor work avoiding exposure to sun. If they expose, their skin will blister. Some of

them have pain and blistering as soon as the sun touches their skin. So they're not actually vampires. They don't drink blood and sleep in coffins, but they do suffer from a rare disease that has vampire-like symptoms.

7. Blaschko's lines: strange stripes all over the body

Blaschko's lines are an invisible pattern built into human DNA. Many inherited and acquired diseases of the skin or mucosa manifest themselves according to these patterns, creating the visual appearance of stripes. What makes them more remarkable is that they correspond quite closely from patient to patient, usually forming a "V" shape over the spine and "S" shapes over the chest, stomach, and sides.

8. Walking Corpse Syndrome: they believe to have died

It is a syndrome of mental depression and suicidal tendencies, in which the patient complains of having lost everything: possessions, part of/or entire body, often believing that he or she has died and is a walking corpse.

9. Jumping Frenchman disorder: weird reflexes

The main characteristic is that patients are extremely startled by an unexpected noise or sight. Patients with this disorder flail their arms, cry out and repeat words.

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ॐ कपिल सप्लायर्स

पाल्पारोड, बुटवल-८, रुपन्देही

फोन : ०७१-५४५६५१, मो.: ९८४७२४३३५५, ९८४७२४३३५६

हाम्रा सेवाहरुः सबै प्रकारको टायर, ट्युव, पंचर मेशिन तथा टायर रिसेलिङ्ग र अन्य सम्पूर्ण सामान उचित मूल्यमा पाइन्छ ।

माछा: एक महत्वपूर्ण खानाको परिकार

विद्यासागर झा....✍
सह-प्राध्यापक, बुटवल बहुमुखी क्याम्पस

माछा मानिसहरुको उत्पत्ति देखी नै एउटा महत्वपुर्ण food item बनेको छ। यो रातोमासु खसी बगुंर आदि भन्दा बढी नै लाभदायक हुन्छ। किनभने यसमा बोसोको मात्रा रातोमासु भन्दा निकै नै कम हुन्छ। साथै यसमा प्रर्याप्त मात्रामा प्रोटिन, खनिज (आयोडिन, फस्फोरस) र भिटामिन्स (A, B र D) पाइन्छ । यसमा सबै किसिमको आवश्यक एमिने एसिड्स पाइन्छ। साथै यो खानमा स्वादिष्ट र राम्ररी पचने खालको खानाको प्रकार हो किनभने यसमा connective tissues को प्रतिशत कम हुन्छ।

यति महत्वपुर्ण खानाको प्रकार हुँदा पनि यो चाडै नै सडने र विग्रिने चिज हो । पानी भन्दा बाहिर निकाल्ने देखि नै यो विग्रीने शुरु भई हाल्छ। जब माछा जिउदो अवस्थामा पानी भित्र रहन्छ यसले थुप्रै Bacteria हरु आफ्नो शारिर, गिल्स र भोजननली भित्र बोकेको हुन्छन। माछा पानी भन्दा बाहिर निकाल्दा र मरने वित्तिकै यी Bacteria हरु प्रजनन गर्न शुरु गर्छन र माछाको सबै अङ्गहरुमा आक्रमण गर्छन।

माछा प्रमुखत दुई प्रक्रियाबाट कुहिन्छन । यी हुन Enzymatic Action र Bacterial Action माछा मर्दा पनि यसका Digestive Enzymes सक्रिय नै रहन्छन र त्यसैले यसको Action ले माछालाई गिलो बनाइदिन्छ । यसै कारणले गर्दा माछालाई Preserve गर्दा यसको भोजन नलीलाई काटेर बाहिर निकालिन्छ, यस प्रक्रियालाई Gutting भनिन्छ । थुप्रै Bacteria हरु जुन माछाको शरिर, गिल्स र भोजननली भित्र हुन्छ । त्यसैले आफ्नो विकास गर्ने राम्रो माध्यम पाउछ । किनभने माछाको मासुमा Moisture (पानी) क मात्रा धेरै (७५-८० प्रतिशत) नै रहन्छ। यसको साथै अन्य धेरै Bacteria हरु, माछालाई Handling (हातले छुदाँ) गर्दा र अस्वच्छ तरिकाले Store गर्दा थपिन्छ । माछा मार्दा यसको शरिरमा थुप्रै घाउहरु हुन जान्छ जुन Bacteria को growth को लागि राम्रो वातावरण बनाउछ।

माछा कुहिदा, Enzymes र Bacteria हरु यिनको मासुमा पाईने Proteins र Non-Proteins पदार्थ जसमा नाइट्रोजन प्रमुख तत्वको रुपमा रहन्छ, त्यसमाथि क्रियागरी र टुक्रायाइ Ammonia, carbon dioxide, amines / fatty acids उत्पादन गर्छ। अझ बढि कुहिदा Indole र H_2S जस्ता पदार्थहरु उत्पन्न हुन्छ सजको अतिनै नराम्रो गन्ध हुन्छ। ताजा माछाको मासु हल्का Acidic (P^H-6.4) हुन्छ जबकी कुहिएका माछाको मासु Alkaline हुन्छ । त्यसैले कुहिएको अवस्था माछाको मासुको P^H नापेर जान्न सकिन्छ तर एउटा साधारण मानिसले बजारमा माछा किन्दा तल दिएका कुराहरुमा ध्यान दिएर ताजा र कुहिएको माछा छुट्याउन सक्छ।

१. ताजा माछाको मासु कडा (Stiff) हुन्छ भने कुहिएका माछाको मासु गिलो हुन्छ।
२. हातको औलाले विस्तारै थिच्दा बिग्रेको माछामा औलाको चिन्ह बन्छ भने ताजा माछामा यस्तो छाप बस्दैन।
३. ताजामाछाको आखा चम्किलो र कालो रहन्छ भने कुहिएको अवस्थामा आखाको रगं सेतो (दुध जस्तो) हुन जान्छ।

४. ताजामाछाको गिल्स (प्रायः कान भनिने गरिन्छ) रातो हुन्छ भने बिग्रेको माछाको गिल्सको रगं सेता भई सक्छ । हुनतः कतिपय माछा ब्यापारीले गिल्सलाई रगं प्रगोग गरि रातो बनाइदिन्छ तर यसलाई हामीले हातले छामेर रगं पत्ता लगाउन सक्छौ ।

५. कुहिएको माछाको गन्ध Fishy नभएर कुहिएको गन्ध आउँछ ।

६. माछाको मलद्धार (vent) कुहिएको अवस्थामा बाहिर निस्केको हुन्छ ।

हुनतः माछाको मासुलाई कुहिनबाट बचाउनका लागि धेरै उपायहरु गरिन्छ । जस्तै बर्फमा राख्ने, सुकाउने, रसायनको प्रयोग गर्न, आदि । भारतबाट ल्याइएका माछाहरुमा रसायनको प्रयोग गरेको पाईए पनि यिनको मात्रा निम्न नै राखिन्छ । तापनि यस्ता माछा धेरै लामो समय सम्म खानाले स्वास्थ्यमा केही असर पार्न सक्छ । तसर्थ यस्ता माछाहरु कम मात्रामा खानु ठिक हुन्छ ।

प्रायः बजारमा पाइने माछाहरु रहु, नैनी, भाकुरा, ग्रासकार्प, विगहेड कार्प, कमन कार्प, सिल्भरकार्प, मगुंर तथा सान-साना लोकल माछाहरु हुन्छ । यिनी मध्ये रहु, कमन र विगहेड कार्प माछा केही महंगो हुन्छ । तर यि माछाहरु बढि स्वादिष्ट तथा काँडा पनि कम र मोटो हुन्छ । ग्रासकार्प माछा स्वादिष्ट भएपनि यिनमा काँडा अलि मसिनो हुन्छ । नैनी र सिल्भर कार्प माछामा काँडाको मात्रा बढि र मसिना खालको हुन्छ मगुंरमाछा स्वास्थ्यको दृष्टिकोणले लाभदायक हुन्छ र साथै बजारमा जिउँदो ताजा अवस्थामा उपलब्ध भएपनि यिनको आकार सर्पजस्तो भएकोले धेरै मान्छेले मन पराउदैनन् । साना साना खालका लोकल माछाहरु जुन नदि र खोलाबाट मारेर ल्याइन्छ त्यो स्वादिष्ट हुनुको साथै स्वास्थ्यको दृष्टिकोणले राम्रो हुन्छ तर वर्षातको सिजनमा खोला, धानखेत, खाल्डो आदिबाट मारेको माछा स्वास्थ्यको दृष्टिकोणले राम्रो मानिन्न किनभने आजभोली खेतबालीमा विषादिको प्रयोग धेरै नै गरिन्छ ।

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Himal Tandan
Managing Director

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Computer Vision Syndrome in Nepal

Dr. Prabhat G.C.....✍
Optometrist Lumbini Eye Institute, Butwal

There is not a long history of computers in Nepal. Before 20 years there was rarely found a computer. But now a day's computer is being most popular things in every government office, every colleges or boarding's, every hospital or its popular with pediatric to geriatric or we can say that Nepal is almost being a computerized. With the lots of advantage of computer there also a lots of disadvantage like health, wealth, environment one of the most common problem of computer user is computer vision syndrome.

Computer Vision Syndrome describes a group of eye and vision-related temporary problems that result from prolonged computer use. Many individuals experience eye discomfort and vision problems when viewing a computer screen for extended periods. The level of discomfort appears to increase with the amount of computer use, refractive state of eye, age of the users, environment of room etc.

The most common symptoms associated with Computer Vision Syndrome (CVS) are

- Eyestrain
- Headaches
- Blurred vision
- Dry eyes
- Neck and shoulder pain
- Double vision
- Eye pain

Somewhere between 50% and 90% of people who work at a computer screen have at least some symptoms of eye trouble. In case of Nepal mostly official person, researcher, student, teacher who have to use computer for a long periods of time complain about the syndrome. In addition, working adults aren't the only ones who face the computer vision syndrome. Kids who stare at video games or who use computers throughout the day at school also can experience eye problems related to computer use.

Viewing a computer screen often makes the eyes work harder. As a result, the unique characteristics and high visual demands of computer viewing make many individuals susceptible to the development of vision-related symptoms.

Treatment of computer vision syndrome

- Eyeglasses or contact lenses prescribed for general use may not be adequate for computer work. Lenses prescribed to meet the unique visual demands of computer viewing may be needed. Special lens designs, lens powers or lens tints or coatings may help to maximize visual abilities and comfort.
- Some computer users experience problems with eye focusing or eye coordination that can't be adequately corrected with eyeglasses or contact lenses. A program of vision therapy may be needed to treat these specific problems. Vision therapy, also called visual training, is a structured program of visual activities prescribed to improve visual abilities. It trains the eyes and brain to work together more effectively. These eye exercises help remediate deficiencies in eye movement, eye focusing and eye teaming and reinforce the eye-brain connection. Treatment may include office-based as well as home training procedures.

Viewing the Computer

Proper body positioning for computer use.

Some important factors in preventing or reducing the symptoms of CVS have to do with the computer and this includes :

- Lighting conditions
- Chair comfort
- Location of reference materials
- Position of the monitor
- Use of rest breaks. ❍❍❍

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Tilottama Hospital Pvt. Ltd.

Hospital Road, Butwal, Rupandehi

Tel.: 071-542885

Supraventricular Tachycardia

Bikash Kumar Sah.....✍
B.Pharm, 6th Sem, CCT

It is defined as an abnormally rapid heart rhythm having an electro pathologically substrate emerging above the bundle of his (atrioventricular bundle), thus causing the heart to escalate to rate higher than 100 beats per minute.

Risk factor and causes of ventricular tachycardia

- Excessive caffeine or alcohol
- History of tobacco use
- Extreme psychological stress and anxiety
- Hypothyroidism
- Low potassium and magnesium level
- Structure abnormality of heart
- Anti-arrhythmic medications
- Changes in blood chemistry (such as a low potassium level)
- Changes in pH (acid-base)
- Lack of enough oxygen

Treatment

Nonpharmacological treatment

- Synchronized electrical cardioversion
- Defibrillation
- Cardiac ablation

Pharmacological treatment

- *Class I:* Membrane-stabilizing (Ia) procainamide, disopyramide, (Ib) lidocaine, (Ic) Flecainide.
- *Class II:* Reduce adrenergic input - betablockers.
- *Class III:* Potassium blockers, eg amiodarone, sotalol
- *Class IV:* Calcium influx blockers, eg verapamil (but not dihydropyridines).

Role of pharmacist in management of ventricular tachycardia

- Anti-arrhythmic medication is associated with much adverse effect, as well as numerous drug interaction pharmacists must closely monitor patient to insure that they are receiving effective therapy with minimal side effect.
- Patient should receive extensive education to recognise symptoms associated with toxic effects of individual anti-arrhythmic or a combination of these agents.
- In addition patient should check with their pharmacist or physician before selecting any OTC medication and should avoid alternative treatment or herbal supplementation.
- Pharmacist can assist patient who require treatment for life treating arrhythmias.
- Pharmacist should monitor patient at risk for pro-arrhythmia for electrolyte disturbance and any sing and syndromes of arrhythmias.

10 crazy drugs you don't know

Salikram Poudel.....✍
B.Pharm, 6th Sem.,CCT

1. **Zolpidem: The Sleepwalking Pill**

Zolpidem (Ambien) is a drug with potential side effects like sleep-walking, sleep-driving and occasionally sleep-spewing.

2. **Scopolamine: The Drug Criminals Blow Into Your Face**

Scopolamine is a drug that causes amnesia and suggestibility. The really scary thing about this drug is how easy it is to administer. Criminals in Colombia have been blowing powder into the faces of victims, who then happily empty their bank accounts or assist in the robbing of their own house.

3. **Nutmeg: The Hallucinations Waiting in Your Pantry**

Nutmeg, despite a wholesome reputation, is in fact a hallucinogenic at higher doses.

4. **Human Growth Hormone: That Can Turn You Into a Bond Villain**

A potential side effect of using Human Growth Hormone in sports can be looking like a James Bond villain…

5. **The Hellish (Bromo dragonfly): Deadly LSD Trip That Lasts for 3 days**

Bromo-dragonfly is a drug that is named because its molecular structure looks like a dragonfly that can act like a super-charged version of LSD(Lysergic acid diethyl amide), with trips lasting up to 3 days.

6. **Rimonadant: The anti-pot that Can Make You Suicidal**

It can cure munchies but make people depressed and suicidal.

7. **Etorphine : Super-Heroin**

Etorphine is 5000 times stronger than heroin, and can overdose a human simply through skin contact. Its only use is to sedate large animals, and 1/100th of a gram can knock out a 3000 kg elephant.

8. **DNP(2,4-Dinitrophenol): The Horrifying Weight Loss Drug**

DNP burns fat in humans so well, it raised body temperatures and cooks the user from the inside.

9. **Dimethylheptylpyran(DMHP) : Super Powerful Synthetic Marijuana**

Dimethylheptylpyran is US military designed marijuana so potent that a 1mg dose can leave soldiers unable to perform their duties for up to 3 days.

10. **Krokodil : Russian Heroin That Eats Your Flesh**

Krokodil is a cheaply produced drug that has similar effects to heroin, but with side effects that include literally eating away at the flesh of the user.

❍❍❍

Being CCTian.....

Surendra Prasad Gupta.....✍
B.Pharm, 6th Sem.,CCT

I am much lucky and proud to be a CCTian and feel much glad to be a part of CCT that has been providing the best and quality education since decades and ranked as one of the top most college in western development region and of Nepal as whole.

Before entering in CCT, I was much upset and hopeless in selection of college for future career. But when I stepped into CCT, it gives me a new hope and courage to build up my career. So I think I had taken right decision in joining CCT College that determines right path in pursuit of my career. Because of friendly and peace environment, well coordinated and experienced teachers with availability of almost all academic facilities, this CCT College can be a right selection for those students who are seeking the best college to boost up their career and compete with today's technical world.

Medicinal plants and its importance

Ankur Srivastav....✍
B. Pharm, 2nd Sem, CCT

Crude Drugs:-

Simple, unprocessed and raw products of plants, animals, microbes and mineral origin which possess some sort of medicinal properties and used to treat, cure or prevent the disease in both humans and animals are known as crude drugs. They are simply called as 'Jadibuti'. Crude drugs are locally available, cheaper in price, raw and unprocessed and chemically undefined.

Medicinal plants are the local heritage with global importance. World is endowed with a rich wealth of medicinal plants. Herbs have always been the principal form of medicine in Nepal and presently they are becoming popular throughout the developed world. The medicinal plants also plays an important role in the lives of people, particularly in the remote parts of developing countries with only a few health facilities. At present, medicinal plants are looked upon not only as a source of affordable healthcare but also as a source of income.

Ginger:-

Scientific name: *Zingiber officinalis*
English name : Ginger
Nepali name : Aduwa
Family : Zingiberaceae

Ginger is mainly cultivated in countries like Nepal, India, China, etc. Ginger is irregular in shape and its size ranges from 5-15 cm in length and 3-6 cm wide. It is almost found in Buff colourwhich are aromatic, spicy and pungent in taste. Ginger contains about 1-2 % of volatile oil and 5-8% of resinous matter, starch and mucilage.

Uses:-

1) A piece of ginger is generally used in the treatment of dyspepsia, flatulence, vomiting, diarrhoea and other stomach problem.
2) Sore-throat, hoarseness and loss of voice are sometimes benefitted by chewing a piece of ginger.

Love and Attraction Facts

Nisha Adhikari.....✍
B. Pharm, 2nd Sem, CCT

- Falling in love can induce a calming effect on the body and mind and raises levels of nerve growth factor for about a year.
- Women are less attracted to men with a belly. A large amount of abdomen fat means lower level of testosterone, lower sex drive and lower fertility.
- Men are more attracted to women whose bone structure is similar to their own mother. Researchers call this 'sexual imprinting'.
- A strong sense of humor is associated with intelligence and honesty, that's why most women are attracted to men with a sense of humor.
- Maschalangia is a partialism in which an individual is sexually attracted to armpits.
- Holding hands with someone you love can alleviate physical pain as well as stress and fear.
- According to a new study, women's tears have been proven to biologically reduce testosterone levels and arousal in men.
- Studies show that happiness is contagious and that potential dates find it hard to walk away from happy people.
- The most common time for breakups is around three to five months.
- Men with deeper voice more likely to make a lasting impression on women than men with higher voices.
- Psychologically, humans are not capable of being just friends with member of opposite sex.
- Tall men have greater reproductive success than shorter men, due to their greater ability to attract mates.
- When you are looking at someone you love, your pupil dilates. They retract the same when you are looking at someone you hate.
- The average man sees five women a day with whom he would like to sleep with.
- Dating specialist suggest that if a women doesn't return a call after two message, she is not interested.
- The wedding ring is worn on the left little finger because there is a vein knows as the vena amoris, is directly connected to the heart.

Some most interesting Facts about Life

Keshav Ojha.....✍
B. Pharm, 6th Sem, CCT

- If you are right handed, you will tend to chew your food on your right side. If you are left hander, you will tend to chew your food on your left side
- If you stop getting thirsty, you need to drink more water. For when a human body is dehydrated, its thirst mechanism shuts off.
- Chewing gum while peeling onions will keep you from crying.
- Your tongue is germ free only if it is pink. If it is white there is a thin film of bacteria on it.
- The Titanic was the first ship to use the SOS signa.
- The pupil of the eye expands as much as 45 percent when a person looks at something pleasing.
- The average person who stops smoking requires one hour less sleep a night.
- Laughing lowers levels of stress hormones and strengthens the immune system. Six-year-olds laugh an average of 300 times a day.
- Adults only laugh 15 to 100 times a day.
- Men's shirts have the buttons on the right, but women's shirts have the buttons on the left
- The owl is the only bird to drop its upper eyelid to wink. All other birds raise their lower eyelids
- The reason honey is so easy to digest is that it's already been digested by a bee
- The color blue has a calming effect. It causes the brain to release calming hormones
- Every time you sneeze some of your brain cells die
- Your left lung is smaller than your right lung to make room for your heart
- When you blush, the lining of your stomach also turns red
- When Hippos are upset, their sweat turns red
- Google is actually the common name for a number with a million zeros
- The attachment of the human skin to muscles is what causes dimples
- Human hair and fingernails continue to grow after death
- It takes about 20 seconds for a red blood cell to circle the whole body

- The only part of the body that has no blood supply is the cornea in the eye. It takes in oxygen directly from the air
- Every day 200 million couples make love, 400,000 babies are born, and 140,000 people die
- The only 2 animals that can see behind it without turning its head are the rabbit and the parrot
- Intelligent people have more zinc and copper in their hair.
- The average person laughs 13 times a day
- Women blink nearly twice as much as men
- Whip makes a cracking sound because its tip moves faster than the speed of sound
- The human heart creates enough pressure while pumping to squirt blood 30 feet!!
- You cannot hear anyone if you are talking.
- Adult eyes have a tendency to make the world small, yet are always looking for the big things, child eyes make the world big and yet are fascinated by the small things.
- Nothing is more contagious than a smile.
- The best gift you give anyone is your time and patience. Patience is the ability to understand it is not always about you.
- True beauty is not determined by a look but by a thought and a deed.

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Sunil Shrestha

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AMAZING FACTS ABOUT THE HUMAN BODY

Laxmi Gupta.....✍
B.Pharm, 2nd Sem.,CCT

1. The higher our IQ, the more we dream.
2. Facial hair grows faster than any other hair on the body.
3. Women's hearts beat faster than men's.
4. The lifespan of a human hair is 3 to 7 years on average.
5. The acid in stomach is strong enough to dissolve zinc.
6. Everybody has one strong eye and one weak eye.
7. Skeleton keeps renewing itself every ten years.
8. The human feet have 500,000 sweat glands.
9. The nail on the middle finger grows faster than the other fingernails.
10. We are about 1cm taller in the mornings than in the evenings.
11. The strongest muscle in the body is the human tongue.
12. The hardest bone in the human body is the jaw bone.
13. Women are born better smellers than men and remain better smellers over life.
14. Men burn fat faster than women by a rate of about 50 calories a day.
15. Men get hiccups more often than women.
16. A man has approx 6.8 litres of blood while women have approx 5 litres.
17. The largest cell in the body is the female egg and the smallest is the male sperm.
18. During lifetime, we will produce enough saliva to fill two swimming pools.
19. Men have erections every hour to hour and a half during sleep.
20. After eating too much, hearing is less sharp.
21. If saliva cannot dissolve or mix with food, we will not be able to taste that food.
22. Noise causes the pupils of eyes to dilate. Even very small noises can do this.

"Declare the past, diagnose the present, foretell the future." ? Hippocrates

23. By age 60, most people will have lost half their taste buds.
24. Eyes remain the same size after birth but nose and ears never stop growing.
25. The hands and feet contain almost half of the total bones in the human body.
26. Humans shed and regrow outer skin every 27 days.
27. Three hundred million cells die in the human body every minute and everyday and adult produces 300 billion new cells.
28. The colder the room we sleep, the higher the chance we would get nightmare.
29. Humans are the only species that produce emotional tears.
30. All babies are color blind at birth, they see only black and white.
31. The only part of your body that has no blood supply is the cornea in the eye.
32. A normal human being can survive 20 days without eating and only 2 days without drinking.
33. Everyone has a unique smell, unique finger print and unique tongue print.

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LOUSE-BORNE RELAPSING FEVER

Aashish Bhandary.....✍
B.Pharm, 4th Sem.,CCT

The human body Louse, *Pediculus humanus* causes itching. Borreliae *(B.recurrentis)* are liberated from the infected lice when they are liberated from the infected lice where they are crushed during scratching, which also inoculates the borreliae into the skin.

CLINICAL FEATURES

Onset is sudden with fever. The temperature rises to 39.5-40.5 degree celcius and is accompanied by a rapid pulse, headache, generalized aching, injected conjuctivae and frequently a petechial rash, epistaxis and herpes labialis. As the disease progresses, the liver and spleen frequently become tender and palpable and jaundice is common. There may be severe serosal and intestinal haemorrhage. Mental confusion and meningism may occur.

PREVENTION

The patient, clothing and all contacts must be freed from lice as in epidemic typhus.

MANAGEMENT

The problem of treatment are to eradicate the organism, to minimize the severe Jarisch- Herxheimer reaction (It is an acute febrile reaction following the initiation of treatment, characterize by headache, malaise and myalgia and resolving within 24 hours.) which ineviatably follows successful chemotherapy, and to prevent relapses. The safest treatment is Procaine bebenzylpenicillin 300mg intramuscularly, followed the next day by 0.5g tetracycline. Tetracycline alone is effective and prevent relapse, but may give rise to a worse reaction. Doxycycline, 200mg once by mouth as an alternative to tetracycline, has the advantage of also being curative for typhus, which often accompanies epidemics of relapsing fever.

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FACTS ABOUT TEENS AND DRUG ABUSE

Basanta Basyal.....
B.Pharm, 6th Sem.,CCT

- More teens die from prescription drugs than heroin/cocaine combined.
- In 2013, more high school seniors regularly used marijuana than cigarettes as 22.7% smoked pot in the last month, compared to 16.3% who smoked cigarettes.
- 60% of seniors don't see regular marijuana use as harmful, but THC is nearly 5 times stronger than it was 20 years ago.
- 1/3 of teenagers who live in states with medical marijuana laws get their pot from other people's prescriptions.
- The United States represents 5% of the world's population and 75% of prescription drugs taken. 60% of teens who abuse prescription drugs get them free from friends and relatives.
- Adderall use has increased among high school seniors from 5.4% in 2009 to 7.5% this year.
- 54% of high school seniors do not think regular steroid use is harmful, the lowest number since 1980, when the National Institute on Drug Abuse started asking about perception on steroids.
- By the 8th grade, 28% of adolescents have consumed alcohol, 15% have smoked cigarettes, and 16.5% have used marijuana.
- Teens that consistently learn about the risks of drugs from their parents are up to 50% less likely to use drugs than those who don't.
- Five years ago 5.1% high school seniors smoke pot daily but increased upto 6.5% by the year 2013. Meanwhile, less than 20% of 12th graders think occasional use is harmful, while less than 40% see regular use as harmful (lowest numbers since 1983).
- About 50% of high school seniors do not think it's harmful to try crack or cocaine once or twice and 40% believe it's not harmful to use heroin once or twice.

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JAUNDICE:

Khem Tiwari.....✍
B.Pharm, 2nd Sem.,CCT

Jaundice is a disorder of body characterized by yellowing of the skin and the sclera or whites of the eye. It is not a disease but only a sign to many other diseases. The basic causes of the disorder are due to the high level of chemical bilirubin in the blood. Jaundice can occur when too much bilirubin builds up in the body due to excess dying or breakdown of RBC and reach to the liver. Any condition that disrupts the movement of bilirubine (Waste Products that's Produce when RBC breaks down) forms the blood to the liver and out of the body can causes Jaundice.

Symptoms

1. Extreme fever in addition to have headache, weakness and loss of appetite.
2. Yellow discoloration of the eyes, tongue, skin, nail and darkish yellow urine.
3. Dull pain, over the liver region.
4. Itching in the whole body.

Treatment:

A.) Non- Pharmacological Treatment:

1. Tomatoes are considered to be best food to be consumed when you are suffering from jaundice.
2. At least twice a day take a glass of sugar cane juice.
3. Consumes plenty of boiled water, coconut water, radish and papaya.
4. Avoid all types of meats, tea, narcotics, coco juices and alcohol etc.

B.) Pharacological Treatment

1. Tablets of liv-52 or syrup 1-2 TSP thrice daily along with heavy doses of vitamin B-Complex
2. Cap. Cobadex or cap. Becosules 2-4 capsules daily after meals

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Diabetic Neuropathies

Roshan Gyawali.....✍
B.Pharm, 6th Sem, CCT

Diabetic neuropathies are neuropathic disorders that are associated with diabetes mellitus. These conditions are thought to result from diabetic microvascular injury involving small blood vessels that supply nerves in addition to macrovascular conditions that can culminate in diabetic neuropathy.

Signs and symptoms

Diabetic neuropathy affects all peripheral nerves including pain fibers, motor neurons and the autonomic nervous system. It therefore can affect all organs and systems, as all are innervated. Symptoms may include Numbness, Dysesthesia, Erectile dysfuncation, Urinary incontinence, Vision changes,Dizziness, Muscle weakness, Difficulty swallowing, Speech impairment etc.

Causes of diabetic neuropathies

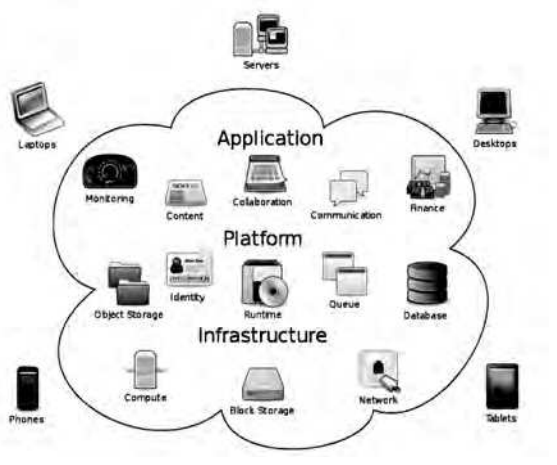
- Metabolic factors, such as high blood glucose, long duration of diabetes, abnormal blood fat levels, and possibly low levels of insulin
- Neurovascular factors, leading to damage to the blood vessels that carry oxygen and nutrients to nerves
- Autoimmune factors that cause inflammation in nerves
- Mechanical injury to nerves, such as carpal tunnel syndrome
- Inherited traits that increase susceptibility to nerve disease

Types of diabetic neuropathy

- Peripheral neuropathy, the most common type of diabetic neuropathy, causes pain or loss of feeling in the toes, feet, legs, hands, and arms.
- Autonomic neuropathy causes changes in digestion, bowel and bladder function, sexual response, and perspiration. It can also affect the nerves that serve the heart and control blood pressure, as well as nerves in the lungs and eyes
- Proximal neuropathy causes pain in the thighs, hips, or buttocks and leads to weakness in the legs.
- Focal neuropathy results in the sudden weakness of one nerve or a group of nerves, causing muscle weakness or pain. Any nerve in the body can be affected.

Cloud Computing

Gopal Gyawali.....✍
Stat ICT Solution



Cloud Computing

Cloud Computing is the internet-based storage for files, applications, and infrastructure. It is the use of computing resources (hardware and software) that are delivered as a service over a network (typically the Internet). It refers to manipulating, configuring, and accessing the applications online. It offers online data storage, infrastructure and application.

Basic Concepts

There are certain services and models working behind the scene making the cloud computing feasible and accessible to end users. Following are the working models for cloud computing:

- Deployment Models
- Service Models

DEPLOYMENT MODELS

Deployment models define the type of access to the cloud, i.e., how the cloud is located? Cloud can have any of the four types of access: Public, Private, Hybrid and Community.

Public Cloud

The Public Cloud allows systems and

services to be easily accessible to the general public.

Private Cloud

The Private Cloud allows systems and services to be accessible within an organization.

Community Cloud

The Community Cloud allows systems and services to be accessible by group of organizations.

Hybrid Cloud

The Hybrid Cloud is mixture of public and private cloud.

SERVICE MODELS

Service Models are the reference models on which the Cloud Computing is based. These can be categorized into three basic service models as listed below:

1. Infrastructure as a Service (IaaS)
2. Platform as a Service (PaaS)
3. Software as a Service (SaaS)

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औषधीको थोक विक्रेता ।

Self Confidence- A Key to Success

Dipak Dhakal.....✍
Act. Campus Chief, Aims College, Butwal

Self confidence is an attitude which allows individuals to have positive yet realistic views of themselves and their situations. It is extremely important key factor in almost every aspects of individual's life to reach to the destination. So, many individuals struggle to find it over their lifecycle. The proportion of self confidence must be higher to face the global challenges meeting the opportunities. However, the level of self confidence differs from person to person. Consideration on sincerity, efficiency, effectiveness, perfection, self motivation, clarity, independence, guidance, belief on oneself are the basic factors to promote self confidence on own character.

The people who are not self confident depend excessively on the approval of others to feel good about themselves. They tend to avoid thinking risks because they fear failure. They generally do not expect to be successful. By contrast, self confident people are willing to risk the disapproval of others because they generally trust their own abilities. They tend to expand themselves. Such individuals inspire confidence to others; their students, their audiences, their subordinates, their bosses, their customers and their friends. In this context, gaining the confidence of others is one of the key ways in which a self confident person finds success.

In order to gain self-confidence, we need to believe in ourselves We need to accept ourselves, love ourselves and be happy with who we are as people. We are valued for just being people, for just being in this world. We often believe we must continually try to prove to other people that we are worthy of them or on the same level as them. We often spend too much time doing that and we lose sight of the fact that we are fine just the way we are and that the only person that needs to be happy with them is themselves even though we are not perfect people.

With respect to students, self confidence is an important device to lead own life towards the meaningful ends

obtaining the achievements. It enables them to trust their abilities, have a general sense of control in their academic lives. Moreover, it builds optimistic thoughts in their minds developing clear vision on the behalf of further career. Furthermore, regular study, higher performance, creatively etc. can be boosted up by it.

It is the tough thing to build up self confidence but we can adopt some tips ownselves that might help us to build self confidence. There are couples of handy things as tips that may be the milestone to develop self confidence.

- Look at what you have already achieved of focus on what you have done as proud in your life.
- Understand yourself mentally, physically and spiritually
- Recognize what you are good at and trying to build on those things.
- Set some SMART goals. (S: Specific, M: Measurable, A: Acceptable, T: Time bonded)
- Be focused on your goal.
- Think about self talk and have a read of your fact sheet on self talk.
- Avoid the bad company and mischievous things and thoughts.
- Reward yourself each time you do something that makes you feel proud -go out some place or take it easy for the day.
- Have a tremendous amount of pride in yourself. Remember, you are number one! Thanks!

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फोन : ०७१-५४५९८४

फ्याक्स : ०७१-५४५४७१

MICROFINANCE: Current Situation and Role in Nepal

Achyut Pant.....✍
Lecturer, CCT

Nepal, with a per capita income of US $725 p.a. and having more than 26 million people, is one of the least developed countries. It is dominantly a subsistence agricultural economy, which contributes near about 40 percent of the GDP from this sector. More than 70 percent of the people live in rural areas where basic infrastructure as roads, drinking water, financial institutions, health and even educational services are poor and inadequate. So, the nature of the economy is dual type: one, urban areas full of sophisticated facilities and a market-oriented economy and two, rural areas mostly with rampant poverty, hunger and lack of basic infrastructure facilities.

Being in between two large growth-led economy, China and India, even has been achieving 3.6 percent growth rate per annum. Sometimes it goes to the negative growth rate because of higher population growth rate i.e. 1.35 percent. From the imperative studies, it is difficult to reduce poverty only through growth-led policies but the specific programs have effective impact in this respect. Different programs and other efforts have shown some positive impact and the poverty level has been declined from 42 percent in 1995 to near about to 31 percent in 2005 during 10 years period and 23.8 percent in 2013.

In recent years Nepal has been facing insurgent problem in the rural areas and which has influenced the following development challenges in economic front:

- Structural challenges, such as low factor productivity compared to other south Asian countries and low resource availability;
- High contribution of agriculture to the GDP, while agricultural productivity remains dependent on factors not fully controllable;
- Low domestic savings and declining public and private sector investment;
- Weak financial sector and regulatory oversight;
- Inefficient public enterprises and high dependence on foreign aid.

Because of these all factors, country is

still lacking its growth. So we have to focus a lot for rural areas so that the poverty line will reduce and we could get a better run. Micro finance is so vital for this purpose.

Microfinance is the offer of financial & non-financial services to groups excluded from the traditional banking system. The services are adapted to the needs of the targeted groups. Microfinance is a tool against poverty by enabling the beneficiaries to:

- **Create** sustainable activities to increase their incomes
- **Improve** the living conditions of entrepreneurs and of their families
- **Empower** people and mainly the women

Brief History

MF grew out of experiments in Latin America and South Asia. The best known start was in Bangladesh in 1976; Muhammad Yunus of Bangladesh, an economist teaching at Chittagong university in 1970s; started looking for ways to improve the lives of villagers living adjacent to his university. Together with his students, he seized on the credit market as the most direct and effective vehicle for development. He started lending to villagers from his own pocket and found that they repay on the time and villagers are demonstrably benefiting from new opportunities that the loans opened up.

In Nepal……..

Nepal has developed a considerable history in microfinance activities. The official policy recognition of the importance of this sector in poverty alleviation came in the Sixth Plan (1980/1 - 1984/5). Programs to ensure that the poor, and particularly poor women who traditionally have not had access to formal credit, acquire it have been developed and implemented by both government and non-governmental institutions.Since 1991 the momentum in this sector has increased considerably, resulting in the emergence of various issues potentially hindering the successful long-term provision of financial services to the poor. This has led His Majesty's Government (HMG), supported by USAID, to seek proposed solutions and recommendations for the continued and expanded provision of microfinance in Nepal.

There are three laws which regulate microfinance in Nepal: Bank and Financial Institutions Act 2006, Act for NGOs involved in Financial Intermediation 1999 and Cooperative Act 1991 governs Nepalese microfinance sector

Why Microfinance in Nepal?

Nepal is least developed country in the world with per capita income US $725 in 2012/2013. Some 20 percent population live in urban sector and

remaining 80 percent live sub-urban and rural remote terai, hills and mountain regions. This means 70 percent plus Nepali population are still living in rural areas.

Poverty is high in rural economy due to poor agriculture production, less access of finance, slow pace of social inclusion, less access of basic infrastructure, less access of market, primitive farming practices, less provision of agriculture inputs during cultivation season.Large number of poor and deprived people living in remote areas and lacking women empowerment.

Current position of MF in Nepal

Total number of Microfinance	35
Total number of Staff	4079
Number of branches	776
Number of centers	53689
Number of groups	270613
Number of members	1486128
Number of borrowers	1030125
Total loan disbursed	Rs. 167913491.45
Loan recovered	Rs. 127834972.39
Total loan outstanding	Rs. 28211900.13
Total savings	Rs. 9140450.97

NRB; Microfinance Promotion & Supervision Department
Progress Report Push End 2070

Role of government to promote Microfinance

Government of Nepal requested Nepal Rastra Bank to work with Rural Self-reliance Fund; the wholesale lender especially to support on various income raising and employment generation program especially targeted to the deprived/poor rural households. NRB induced Deprived Sector Credit Program in 1990. Under this program, Commercial Banks of Nepal were requested to allocate 3 percent of their total loans and advances for the hardcore poor households. Recently, Nepal Rastra Bank has urged banks to invest at least ten percent in productive sectors as; agriculture, energy and rural vs. small industries of their total loan portfolio and has also urged them to upgrade this selling up to 20 percent within three years period, i.e., by 2015.

Rural Financial Activities in Nepal

- The priority sector credit program started in 1974 as a policy directive of Nepal Rastra Bank, had also some components of rural finance (micro-finance) services.
- Nepal Rastra Bank further involved in wholesale lending to MFIs working in extending credit to underprivileged people particularly of rural areas of Nepal. Similarly, Five Grameen Bikas Banks were established in 1990s decade under the leadership of NRB in five development regions of Nepal so as to provide concessional credit to the poor/deprived rural households to engage in heterogeneous income raising activities.

- Sana Kishan Bikas Bank Ltd. (SKBBL) and First Microfinance Development Bank Ltd. (FMFDBL) were also established in 2001 and 2009 respectively.
- Donor sponsored programs as Production Credit for Rural Women (PCRW), Micro Credit Project for Women (MCPW), Third Livestock Development Program (TLDP), Community Ground Water Irrigation Sector Project (CGISP), Rural Finance Project (RFP) Village Banking (VB), Rural Finance Cluster Program, Enhance Access to Finance Programs (EAFP), etc. were also launched successfully in various districts of Nepal.
- Nepal Rastra bank is involved with the Raising Income of Small and Medium Farmer's Project sponsored by Asian Development Bank, Manila. This project commenced in 2011 and supported to end by 2016. The objectives of this project is to involve small and medium farmers of Mid-Western and Far Western Development Regions on the production and marketing of high value agricultural products, marketing and thereby raise their income gradually.

Issues and Challenges of Rural Finance

- There is still limited access to finance services in hills and mountain regions. In these areas, people have to walk one, two or even three days to reach at bank, microfinance institutions or their branches to get financial services.
- There is still urgent need for increased access to financial services particularly in hills and mountain regions. However, the cost of operation in such areas for financial institutions is high.
- Microfinance institutions are coy to involve there. In such circumstances; local cooperatives, FINGOs and self-help groups (SHGs) could break this barrier and work on the front of financial access for rural poor households on the front of economic betterment.
- Many rural unemployed adult people, especially the younger generation, could use funds from microfinance institutions to start new ventures, which could allow them to be self-employed and independent. Microcredit or rural finance would help them support their family without borrowing money from informal sources.
- Microfinance institutions have not been able to reach the extreme poor

in remote areas of Nepal due to lack of proper transportation and communication infrastructure. They are clustered in accessible parts of hills, terai and urban areas. People in rural areas of Nepal have access to 30 percent of the roads compared to these in terai region that have access to 60 percent of roads.

- The pace of social inclusion (access of education, health, etc.) is very slow in rural areas. As a result, rural poor household members lags the knowledge on the credit, use of credit and various sources of credit at local level.
- Women centric microfinance programs are more viable in rural areas. Rural women are trustworthy, honest and farsighted in comparison to male counterpart.
- Additionally, studies on microfinance in Nepal reveals that the recovery rate of credit has been found to be high and promising in the microfinance activities run by female household's members.
- It is confess that Cooperatives, FINGOs and SHGs are the best carrier of rural finance activities particularly in remote/rural areas. They are involved with saving, credit, remittance; etc., activities on behalf of poor rural households. The vacuum of financial institutions as: commercial banks, development banks has been mitigated by such institutions.

Nepal Rastra Bank's Response on Rural Finance:

Nepal Rastra Bank has been playing a significant role in developing and promoting rural financial activities so as to help strengthen credit delivery services to the productive agriculture sector in rural areas. There is easy access to refinance of Nepal Rastra Bank on agriculture sector, low bank rate in rural and agriculture refinance, minimum capital requirement to establish rural development bank, line of credit facilities to selected microfinance development banks, wholesale lenders and NRB's continuous involvement on Rural Self-reliant Fund's activities are the instances of NRB's active involvement on the promotion and facilitation of rural financial activities in Nepal.This policy has further urged the banks and financial institutions to open their branches in remote/rural areas. Some incentive packages as; provision of credit of up to Rs.15 crores to the financial institutions or their branches with no interest rate usually work for remote areas is also provisioned.

Projection of 'Self' in Confessional Poetry

Puna Ram Ghimire*

Confessional poetry, a mode that was prominent in the United States in the 1950s and 1960s, has come to be regarded as a regrettable, aberrant, and momentary spasm in the development of that nation's literature. It is the poetry of the personal or 'I' which deals with subject matter that previously had not been openly discussed. Similarly, confessional poetry is also perceived to be a profoundly radical movement. It represents a startling departure from - and offers a powerful and potentially fatal resistance to - the convention of the high academic poetry.

Private experiences are discussed in this type of poetry often in an autobiographical manner. However, many differences can be traced between confessional poetry and autobiographical poetry. Differentiating these two streams of poetry, Daniel Hoffman writes "…autobiographical poetry involves subject, range and tone: the autobiographical poet, not trapped by emotional illness in sufferings, brought on by unresolvable crises, may be able to use more of his life in his work, and even when the poem's subject is similar to the confessional poet's, that subject may be viewed with perspective, detachment, humor (502)."

The confessional poets engage with what has been repressed, hidden or falsified defining them as 'confessional' by undermining the creative ability of the writer to construct a persona or imaginary scenario that is separate from their lives. They not only record their emotions but also craft and construct their personal agonies and anguishes in their poems. Death, trauma, depression, relationships, despondence, sexuality etc. are the important subject matters on which the confessional poets write about. M.H. Abrams asserts "the poet reveals private or clinical matters about himself or herself, including sexual experiences, mental anguish and illness, experiments with drugs, and suicidal impulses (45)."

**Lecturer, English, Crimson College of Technology, Pokhara University*

Robert Lowell, W.D. Snodgrass, Sylvia Plath, John Berryman, Anne Sexton, DelmoreShwartz etc. are well-known and noteworthy confessional poets who confess their inner deep-rooted traumatic experiences in order to interconnect them with the external world by inventing and experimenting new style and technique.

The crucial focus in the confessional poetry is always its dramatic element or "drama in combination with narrative" (Hoffman 699). So the earlier efforts of Robert Lowell, Sylvia Plath and Anne Sexton codify confessional style, which is unmistankenly dramatic. The persona's naked ego is involved in very personal world with particular private experience. Confessional poetry incorporates anti-establishment theme in the sense that it began as a rebellion against the demand for impersonality by T.S. Eliot and the New Critics. T.S. Eliot, a champion of poetic individuality and impersonality, claims that "poetry is not a turning loose of emotion, but an escape from emotion; it is not the expression of personality, but an escape from personality. But of course, only those who have personality and emotion know what it means to want to escape from these things" (qtd. in Hoffman 691). Considering personality is necessary for the expression in poetry, Robert Lowell has done a job by fusing a unique and multifaceted aesthetic personality in his Life Studies. He draws on the New England colloquialism of Frost, understatement of Ransom, and subjectivity of Bishop. The confessional poetry of female poets represents the dynamics of womanhood and vivid egocentric portrayal of personal turbulent experiences.

The confessional poetry can be associated with other literary traditions that range from Augustine to Catullus, from Worthsworth to Whitman, and from S.T. Coleridge to William Carlos William. Firstly, autobiography has found its self-referential voice in the self-serving confessions of Rousseau. In different words, confessional poetry can be seen as on degraded branch of romanticism since it "places the sensitivity of poet at the center of concern" (Molesworth 163). Roy Pascal has concluded that the great age of autobiography is marked by the "search for the true self", regarding Rousseau's confessions and Goethe's

"Poetry and Truth" (Stelzig 17).

Thus, confessional poetry unearths the personal hazards of the poets deluged from the unconscious. The reader of confessional poetry begins to understand the confession better than the confessor understands himself/herself. In short, we can say that the confessional poetry is definitely the projection of unconscious psychological feelings positioning 'self' in the locus.

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ACNE (Acne vulgaris)

Sadhana Khanal.....✍
B. Pharm, 6th Sem., CCT

Acne, medically known as acne vulgaris, is a skin disease characterized by pimples on the face, chest and back. It occurs due to increased activity of sebaceous gland that breaks the pores causing bacteria to grow

There are various types of pimples such as whiteheads, blackheads, papules, pustules, nodules, cysts.

Experts believe, the primary cause is a rise in androgen levels - androgen is a type of hormone. Acne get worse by the menstrual cycle, anxiety and stress, hot and humid climates, oil based makeup, greasy hair.

Acne treatment consists of reducing sebum production, removing dead skin cells, and killing bacteria with topical drugs and oral medications. The drugs include, Resorcinol, benzoyl peroxide, erythromycin, isotretinoin, salicyclic acid, corticosteroid, tetracycline, doxycycline, minocycline, etc

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Motivation for Goal Achievement

Brijesh Muraw.....✍
BBA, Tilottama College, Butwal

When we ask with someone what is your goal in your life ? Most of the people says 'I don't know', someone says I am studying lets see what happen, someone says whatever my parents says that I will do. Very fes people talk about their goal. It is really very bad. Don't be confused with your goal. Set goal in your life and live for that Albert Einstien nicely said" If you want to live a happy life, tie it to a goal not to people or object. As we know that an organization is a artificial person and it has goal, without goal the existence of organization is useless then how the existence of we people without goal is useful. God has given you a fac and one you have to create with the help of your goal. People without goal are confused with their life they don't know where I am going, what the result will be, they get very few things from life. They are unable to give contribution for healthy and happy society.

If you have goal, then according to your goal you can create network with the person having similar goal. Creating relationship with the persons having similar goal is important because it will help to create team. In team we should not treat people as they are, if we do so we are insulting them. We should treat them as they ought to be and help them become what they are capable of becoming.

Sharing of goal is also very important we should share our goal in order to get care. When we share our goal with our parents, friends and teachers then they feel proud having you type of son, friend and student. If you share your goal then people always make you remember you may get help from them.

If you are confused with your goal or you don't have goal then nobody can helps you even you can't help your self. For e.g. you went to butwal bus park and ask with every person which bus should I catch ? then no body can answer you until you ask which bus should i catch to go to Kathmandu ?

We should determined with our goal and then only we can go in right

direction. Be crazy with your goal, "every thing is easy when your are crazy and nothing is easy when you are lazy. What ever happened in your post doesn't matter. Your past mistakes are mean to guide you not to define you. There is nothing the universe. Can't create through you.You can create any thing you want in your life and all that you have to do is live in positively and harmony with the law of attraction. Keep vision is your life. Action without vision is time pass, vision without action is day dreaming but vision with action can bring success in your life. Destiny is all about the choices we make and the chances we take. Consider four points :

1. Today I fell
2. Today I have learned
3. Today I am proud of
4. Today I commit to improve

Daily consider above four points in your life. Kahile pani har sang nadaraunu, yadi yo tapaiko batoma aaunxa vane yasko artha bhagwanley tapailai paxi safal banavna chahnuhunxa vanne ho. Wastaw ma Safal Bannu ko lagi tapaile harko pani samna garnuparxa. Tapaile tyasko anuvav garnus, mahsus garnus, tyasko swad linus, tyaslai bhognus, tyaspaxi matra tapai cham kinuhunxa kinaki ekpatak harko sawd lisakepaxi tapaile sajilai jokhim uthauna saknuhunxa.

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हार्दिक शुभकामना

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Sharwan Path, Butwal-10
Ph.: 071-542830
Mob: 9857025830, 9857031735

औषधीको थोक विक्रेता

युनिक भेट क्लिनिक

नेपालगंज रोड, बुटवल-८ (सिन्दुर होटवल गेट छेउमा)

हाम्रा सेवाहरु :

- कुखुरा, कुकुर लगायत विभिन्न पशुपंक्षिहरुको रोग निदान, उचित औषधी उपचार ।
- कुखुरा, कुकुर लगायत विभिन्न पशुपंक्षिहरुको खोप उपलब्ध हुने तथा लगाईदिने सेवा ।
- गोबर परीक्षण, रगत परीक्षण, शारीरिक स्वास्थ्य परीक्षण ।
- भेटारिनरी डक्टरहरुसँग प्रत्यक्ष प्राविधिक परामर्श तथा सरसल्लाह

प्राविधिक डाक्टरहरु :

डा. प्रकाश कडेल, मो: ९८५७०३४८२१, ९८४७२६०५६१
डा. विरेन्द्र श्रेष्ठ, मो: ९४५२४९८६५, ९८१४२३०६५७

प्रत्येक दिन बिहान ७ बजे देखि साँझ ८ बजे सम्म क्लिनिक खुल्नेछ ।

अझै निर्मूल हुन सकेन महिला हिंसा

Saraswoti Joshi.....✍
B.Ed., Kailali Multiple Campus, Dhangadi

विगत देखि वर्तमानसम्म महिला हिंसा निर्मूल गर्ने भन्ने बारेमा जति बहस गरीएपनि हालसम्म निर्मूल हुन सकिरहेको छैन । महिलामाथि हुने बलत्कार घटना मात्रै हिंसा भित्र पर्दैनन् र महिलामाथि गरिने अन्य दुर्व्यवहार पनि हिंसानै हुन् जस्तैः कुटपिट, शारीरिक साथै मानसिक पिडा, दाइजोका नाममा दिइने पीडा, बहुविवाह गरेर दिइने पिडा, छोरी जन्माएकै नाममा दिईने पीडा, यौन पीडा आदि । महिला हिंसाका निम्ति बनाइएका सम्पूर्ण कानुनको पूर्ण रुपमा पालना नगरी कागजी रुपमा मात्रै सिमित भएकै कारण र नैतिक शिक्षाको अभाव भएकै कारणले आज महिला हिंसा निर्मूल हुन सकिरहेको छैन। हिंसाबाट पिडित हुने महिलामा अधिकांश सम्पन्न र निम्न वर्गका परिवारका महिलाहरु पर्ने गरेका छन् । हिंसाका घटनामा सबैभन्दा बढि सुनिने गरेको बलत्कार सम्बन्धीका घटना रहेका छन् त्यो पनि बाबुले छोरी माथि र शिक्षकले विद्यार्थी माथि गरिने बलत्कार घटना निर्मूल हुन नसक्नुमा कागजको पानामा लेखिएको नियमको व्यवहारिक रुपमा लागु नगरिनु र नैतिक शिक्षाको अभाव नै मुख्य रहेको पाईएको छ । आफ्नै श्रीमान्बाट हिंसा सहेर बसेका कतिपय महिलाहरुले अझै न्याय पाउन सकेका छैनन् किनकी उनिहरुले आफुले पाउने गरेको पिडाको बारेमा खुलेर समाजमा भन्न सकिरहेका छैनन् भने अर्कोतर्फ आफ्नो घरपरिवारको इज्जत जाला भन्ने कारणले सहेर बसेका हुन्छन् जसको कारण पुरुषले दिन प्रतिदिन पिडा दिइरहेका हुन्छन् । सहनसिल नारी जसले हरेक पिडा लुकाएर राख्छन् आफ्नो घरपरिवारको इज्जतका निम्ति हमेसा माया गरिरहन्छिन् । श्रीमान्लाई जसले दिनप्रतिदिन शारीरिक र मानसिक पिडा दिइरहेको हुन्छ मायाले जितिन्छ कि भनेर हमेसा मयागरिरन्छीन र प्रयास असफल भएपछि आत्महत्या गर्न बाध्य हुन्छिन् र आफ्नो जिवनको समाप्त गर्छिन् । यसरी महिलाले आफ्नो पिडालाई सहेर वा लुकाएर बसेकै कारण पनि महिला हिंसा निर्मूल हुन सकिरहेको छैन । हिजो आज किशोरीहरु बढि बलात्कृत हुने गरेको पाइएको छ । जबसम्म कानुको पूर्ण पालना गर्न सकिदैन र नैतिक शिक्षा दिन सकिदैन तबसम्म यि यस्ता किसिमका घटनामा कमि आउन सक्दैन किनकि बलत्कार गर्ने व्यक्तिलाई आश्रय दिइनछ । यहाँ आज एकदिन छोपेर जेलमा राखिन्छ बलात्कृत व्यक्तिको मन शान्त पार्न होस् वा उसको परिवार र समाजको आँखा छल्न होस् तर त्यहि व्यक्ति जसले एउटी महिलाको जिन्दगी बिगारेको हुन्छ त्यसलाई कडा कार्वाही गरिनुको सट्टा तिनचार दिनपछि जेलबाट सम्मानपूर्वक निकालिन्छ के यसरी निर्मूल गर्न सकिन्छ महिला हिंसा । यसरी सम्मानपूर्वक निकालिएकै कारण र आफ्नो नैतिकतालाई बिर्सिएकै कारण आज महिला हिंसा निर्मूल हुन सकिरहेको छैन ।

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Cyber Law and Cyber Ethics:

Mr. Bikash Khanal.....✍
Instructor, CCT

Cyber Law

Cyber law encompasses a wide variety of legal issues related to use of communications technology. It includes use of Internet as well as any other form of Computer or Digital Processing Devices. It includes intellectual property, privacy, freedom of expression, and jurisdiction. Cyber Law addresses the issues of Virtual Property and Virtual Persons. It covers rights of Netizens who are the citizens of Cyber Space and regulation of the Cyber Space for a peaceful and harmonious existence of Netizens. The biggest challenge before Cyber Law is its integration with the legacy system of laws applicable to the physical world. Since Cyber Space has no geographical boundaries, nor the Netizens have physical characteristics of Sex, Age etc, several conflicts surface when the rights of Netizens are viewed in the eyes of Citizens of a physical space. This is well reflected in the conflict between the Trade mark Laws and system of Domain Names. There are several countries which have enacted special laws for regulating Cyber Space Transactions of Citizens within their Physical Jurisdiction and these are recognized as the Cyber Laws of the Physical Jurisdiction.

Cyber Ethics

We live in an exciting time in history. The widespread availability of computers and Internet connections provides unprecedented opportunities to communicate and learn. Unfortunately, although most people use the Internet as a powerful and beneficial tool for communication and education, some individuals exploit the power of the Internet for criminal or terrorist purposes. We can minimize the harm that such individuals do by learning ourselves, and teaching young people, how to use the Internet safely and responsibly. The term "Cyber Ethics" refers to a code of safe and responsible behavior for the Internet community. Practicing good Cyber Ethics involves understanding the risks of harmful and illegal behavior online and learning how to protect ourselves, and other Internet users, from such behavior. It also involves teaching young people, who may not realize the potential for harm to themselves and others, how to use the Internet safely and responsibly.

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लाईब्रेरीको भूमिका

Subhadra Atreya.....✍
Librarian, CCT

सूचना तथा सञ्चार प्रविधिको विकासको परिणामस्वरुप पुस्तकालय तथा सूचना सेवा क्षेत्रको दायरा दिनदिनै फराकिलो वन्दै गइरहेको छ। आज कागजविहिन पुस्तकालय (Paperless Library), इपुस्तकालय (Electronic Library, On-line-Library) का रुपमा पनि पुस्तकालय तथा सूचना केन्द्रहरु स्थापना र सञ्चालन हुन थालेका छन् । त्यसकारण पुस्तकालय वा सूचना सेवाको क्षेत्रमा विभिन्न Materials हरु जस्तै कम्प्युटर Hardware Software इमेल इन्टरनेट तथा (Audio, Audio Visual Materials) सामग्रीहरु हुनु नितान्त आवश्यक छ।

लुम्बिनी अंञ्चलको IT College भनेर चिनिने एक मात्र किंमसन कलेज अफ टेक्नोलोजी बुटवल १३ देविनगर अवस्थित रहेको छ । यसमा कलेज अफ टेक्नोलोजी लगायत दुई कलेज तथा BBA, BCA, BCIS and B.Pharmacy पोखरा युनिभरसिटी अर्न्तगत तथा Dipoloma in Computer र Diploma in Civil, CTEVT अर्न्तगत छ वटा Program लिई संचालन भैरहेको छ । यी सबै Program को पुस्तकालय संयूक्त एउटैमा रहेको छ। हाम्रो College को Library मा भन्नु पर्दा धन्नै एघार हजार पुस्तकहरु IT and Management तथा B. Pharmacy हुदै Diploma CTEVT रहेका छन । प्रत्येक Programming को राम्रो र व्यवस्थित पुस्तकालय तथा Barcord को माध्यमबाट पुस्तकहरु आदान प्रदान गरिन्छ।

विद्यार्थीको लागि पुस्तकालयको ठुलो महत्व छ । जसले पठनपाठनको लागि ठुलो भुमिका खेलिरहेको हुन्छ। जसमा अध्यनको लागि Journal Newspaper को पनि धेरै महत्व देखिन्छ । जसमा Students लाई गुरुले दिएको शिक्षा कता कुन पुस्तक कुन लेखकबाट अघि बडिरहेको छ, भन्ने कुरा लगायत Text Book, Reference Book लगायतका कुराहरुलाई मध्य नजर लगाउनु पर्ने हुन्छ। यसै गरी Report तथा thesis को लागि Dose.com, dos.com ले Managment विषयलाई धेरै सहयोग गर्छ भने pharmacy, Nursing अथवा Medical department को लागि Henari.com ले ठुलो सहयोग गरेको देखिन्छ।

सारांशमा भन्ने हो भने देश विदेशमा International Classification, Cataloging को आधारमा पुस्तकहरु आदान प्रदान गरिएका छन् Library मा मात्र Computer देखिन्छ अर्थात हजारौ पुस्तकहरु यसै माध्यमबाट अध्ययन गरिन्छ। जसलाई Electronic Library भनिन्छ। तर हाम्रो देश नेपालमा IT को यति विकास भैसकेको छैन । Paper Card देखि बावे सर्दै अघि बढेको CCT को पुस्तकालय Digital Card तथा Barcord को माध्यमबाट आदान प्रदान तथा हाल पुस्तकहरुलाई International Classification Cataloging गरिदै छ।

College तथा कुनै संस्था नियममानुसार अगाडि बढनु स्वभाविक देखिन्छ तर वर्तमानका विद्यार्थीको रुपरेखा हेंने हो भने परीक्षाको समयमा मात्र पुस्तक खोज्ने प्रविधी बढिरहेको देखिन्छ । सारांशमा पुस्तकालय तथा सूचना सेवा क्षेत्रमा काम गर्ने व्यक्ति तथा पठन सामग्री र यसका किसिम, हरेकका विशेषता र उपयोगिता बारेमा आधारभूत जानकारी राख्नेहो भने संस्था लगायत पाठकहरुको हित तथा सेवाग्राही हुनेछ। ○○○

Computer Technology in Education and Its Effectiveness

Pradeep Karki.....✍
BCA 8th Sem.,CCT

With the recent advancement in the education industry, the use of computers in education has become relevant. Computers play a great role in helping students learn faster and they also increase the level of creativity of students because of the endless equations they present to a student. Many schools have expanded on their use of computers by creating bigger computer labs. This is a bit expensive for most schools, so most public schools have not enjoyed the benefits of using computer technology in education. Both teachers and students use computers to complete specific tasks. For teachers, they use computers to create graphic illustrations which can help students learn easily, yet students use computers in typing of notes and reading of electronic books which can be downloaded from the internet.

However, schools and educational curriculum should not replace teachers with computers, because a computer is just a tool which can be of no function without a teachers guide. This means that we shall still need and will always need to have teachers in the classrooms, but use computers to help them do their job easily and also attract students to get involved in academic activities. The exact effectiveness of computers is not yet clear, but it can not be denied that they have simplified the way we learn. Without computers, educational facilities like "online education or long distance learning" would be next to impossible.

Effective Use of Computer Technology in Education:

- Comds ,Projectors , Internet and Mobile phonputer technology can be used for visual illustrations: Students can learn more when teachers teach them using visual illustrations. Now when we talk of computer technology, we cover technological tools like PC's , smart whiteboards ,iPaes. Both students and teachers can use these tools in education. For example, teachers can use smart whiteboards and projectors in visual illustrations, teachers can use PC',s to assign work to students in the

classroom , students can use iPads to read from any were or share illustration images with their peers while in the classroom. It is well known that humans learn better when images or videos are integrated with text. A teacher can derive live stream videos from the internet and use a projector and a white board to show a live example to their students while in the classroom.

- Computer technology can be used in long distance learning: Many students have used computer technologies to learn from any were , computer gadgets like iPads can access internet from any where and they can allow students to attend remote classes. Many universities and colleges have added online education on their curriculum and they enroll students from all parts of the world. This has opened boundaries to so many students, who have got the opportunity to study advanced courses which are not provided in their universities or colleges. Also adults who want to continue with education have embraced the online education system, because it allows them to learn at any time and also give them the freedom to work. For example, a person can work during day time, and attend lectures in the night while at home using a computer and the internet.
- Computer technology can be used in real-time education: Unlike in the past, were examples on specific subjects would only be derived from text books, in most cases these example are out-aged so they might have worked during those days but they can not work today. So with such examples students find it very hard to relate a subject with the present situation. Computer technology has changed this. With the use of broadband internet, teachers and students can get real-time example on specific subjects. This makes learning easy because students can easily interact with those live examples, which simplifies the way they learn. ❍❍❍

गजल...

- Sabu Chhetri

एकोहोरो तिम्ले मन, पराएर केही हुन्न ।
छातीपिटी रोई रोई, कराएर केही हुन्न ।

थरीथरी बिलोनामा, प्राण त्याग्ने बाचा गर्दै
रगतैले लेखी पाना, भराएर केही हुन्न ।

एकतर्फी मायाँ प्रेम, हुने भए पो त यहाँ
जबर्जस्ति मुटु हरण, गराएर केही हुन्न ।

अंगालोमा बाँधिएर, रुदै मनको बह पोख्दै,
आँखैभरी आँसुहरु, छराएर केही हुन्न ।

देश विकासमा यूवा शक्तिको भूमिका

छितराज न्यौपाने.....✍
भैरहवा

सामान्यतमा यूवा भन्नाले निश्चित उमेर समूहको मानिसलाई बझाउँछ । यूवा सम्बन्धी भिन्न भिन्न देशहरुका भिन्न भिन्न प्रकारका धारणाहरु रहेको पाइन्छ । त्यस्तै नेपाल सरकारले जारी गरेको राष्ट्रिय युवा नीति २०६६ ले १६ देखि ४० वर्ष उमेर समूहका महिला, पुरुष तथा तेस्रो लिङ्गी समेतलाई यूवाका रुपमा परिभाषित गरेको छ यद्यपी नेपालमै क्रियाशिल विभिन्न प्रकारका राजनीतिक दह, राष्ट्रिय तथा अन्तर्राष्ट्रिय संघ संस्थाहरुले आ-आफ्नै परिभाषा र दृष्टिकोण राखेको पाइन्छ । मानव विकासका विभिन्न आवस्था मध्येको एक महत्वपूर्ण अवस्था यूवा अवस्था हो । यो कुनै पनि देशको महत्वपूर्ण वर्ग हो ।

कुनै पनि देशको विकास निर्माण गर्नका लागि यूवाको महत्वपूर्ण र अग्रगामी भूमिका तथा योगदान रहेको हुन्छ । त्यसकारण यूवावर्गलाई राष्ट्रको खम्बा पनि भनिन्छ । देश विकासको हरेक चरणहरुमा यूवा शक्ति अतिआवश्यक छ । देश विकासको कुनैपनि चरण वा अवस्थामा त्यस देशको यूवा शक्ति क्रियाशिल (Active) जनशक्ति हो । जसमा बालक र वृद्धा जनसंख्या आश्रित रहेको हुन्छ । आज संसारका अधिकांश राज्यमा ठुलाठुला परिवर्तन र विकासको गति तिव्र हुनुको कारकतत्व यूवा नै हो र विश्वका अनैकौ देशहरुमा भएका युवा क्रान्ति पछि राज्यले अनुहार फेरेको घट्नाहरुमा यूवा आन्दोलनहरुले राष्ट्रघाती निर्णयहरु समेत उल्टिएका उदाहरणहरु विश्वमा धेरै छन् ।

नेपालको सन्दर्भमा विभिन्न प्रकारका परिवर्तनहरु यूवा शक्तिका कारण भएको हो, भन्ने कुरामा दुइमत छैन । आज हाम्रो देशमा विकास निर्माणका कामहरु थप्प छन् । सरकार रमिते बनिरहेको छ, राजनीतिक दलका नेताहरु अङ्क गणित्य हिसाब किताब गरी सरकार बनाउन र गिराउनमा व्यस्त छन् । सभासदहरुलाई कुनै मतलब छैन, संविधान निर्माणको नाममा समय र पैसाको सत्यानास र बर्बाद गरिरहेको तितो सत्य हाम्रो सामु छ । प्रत्येक दिन करिब ४३०० जना यूवाहरु विदेश गइरहेका छन् । जसकारण नेपालका गाउँबस्तीहरु खाली र सुन्नै रहेको अवस्था छ । यूवाशक्तिलाई देश विकासमा लगाई स्वदेशमा रोजगारी दिनुको सट्टा सरकारले पश्चिमा देशहरुको सिकोगरी विदेश पढ्नका लागि भनेर स्नातकलाई तीन वर्षे बाट थपगरी चार वर्षे पाठ्यक्रम लागु गर्दैछ । यो कदाचित राष्ट्र हितमा गरिएको निर्णय हो, जस्तो मलाई लाग्दैन । नेपालमा नेपालको माटो सुहाउँदो रोजगार मुलक र व्यवसायीक शिक्षा प्रदान गरी यूवाशक्तिको सहि सदुपयोग गरी देशको चौतर्फी विकास गर्नु वर्तमान समयको माग तथा आवश्यकता हो । नेपालमा विभिन्न प्रकारका प्राकृतिक स्रोत तथा साधनहरु छन् । विभिन्न प्रकारका व्यवसायीक सम्भावनाहरु छन्, प्रचुर जलविद्युतको सम्भावना छ । नेपालका नदीहरुबाट डलर बगेर खेर गइरहेको छ । यसको सही उपयोग गरी देश विकासलाई विकासको पथमा लैजान सक्ने प्रचुर सम्भावनाहरु छन् । यूवा मुलुकको भविष्यसगै प्रत्यक्ष जोडिएको विषय भएकाले देश विकासमा यूवाको महत्वपूर्ण भूमिका हुन्छ भन्ने कुरा प्रमाणित हुन्छ । विदेशीएका यूवाहरुको रेमिटान्स (Remittance) को भरमा देश चलाउने कुरा बिल्कुल राम्रो होइन र यो दीर्घकालीन पनि हुन सक्दैन । त्यसकारण देशविकासमा यूवाको भूमिकालाई आत्मसाथ गर्दै नेपाल सरकाले यूवाशक्ति विदेशीने वाध्यतालाई ध्यानमा राख्दै त्यसै अनुरुपको योजना तथा कार्यक्रमहरु ल्याई देश विकासमा यो जल्दो बल्दो जनशक्तिलाई लगाई देश विकास गर्न आवश्यक छ र यहि नै वर्तमान र भविष्यको आवश्यकता हो र हुनेछ । ○○○

B.Sc.CSIT

Hari Shrestha.....✍
Tinau Technical College, Butwal

B.Sc.CSIT [Bachelor in Science in Computer Science & Information Technology], is a core & well recognized course of Information Technology affiliated to T.U in Nepal. The objective of B.Sc.CSIT program is to offer intensive courses in the theory, design, programming and application of computers. The graduate from this program will be equipped with necessary knowledge of computer software system and functional knowledge of hardware system. The program equally focuses on services courses to meet the need of high technology applications like- Operating system, Computer network, Software Engineering, Simulation and Modeling, Database System, Computer Graphics, Artificial Intelligence, Web Technologies, etc.

Job Prospective :

Capable person after complision of this course will be able to get the following jobs,

- Software Developer
- Web Developer
- Network Administrator
- Database Administrator
- IT Manager/Officers
- Cryptographer
- Ergonomics Program Designer
- System Analyst
- Project Manager
- Information System Auditor

Available College in Butwal:

In order to study this subject following colleges are available in Butwal city.

1.Butwal Multiple Campus (Governmental)
2.Tinau Technical College
3.Nepathya International College ❍❍❍

"भावना"

- Pravin Shrestha
B.Pharm, 6th Sem, CCT

सधैं सधैं सपनीमा आउँछौ तिमी
अन्धकार रातमा पनि जुन संगै छाउँछौं तिमी ।
रातको मिठो जिन्दगी सँगै प्रीत लगाउँछौ तिमी
बिहानीपख सुनौलो किरण सँगै डाँडापाखामा छाउँछौं तिमी ।
कोईलिको मिठो धुन सँगै बनपाखामा गाँउछौ तिमी ।
पारी गाँउको काल्लाबाट हात हल्लाई बोलाइरन्छौं तिमी ।

परिवर्तनशिल समाजका नारीहरू

Sita Joshi.....✍
BBS, Dhangadi

आज हाम्रो समाज दिनप्रति दिन परिवर्तन भइरहेको छ। जसलाई नयाँ सोच, विचार र धारणा भएका व्यक्तिहरुले गर्दा समाज परिवर्तन भएको हो जुन परिवर्तनको कारणले आज समाजमा बसोबास गरिरहेको महिलाहरुको जिवनस्तरमा पनि केहि परिवर्तन आएको छ । जसको कारणले विकट क्षेत्रमा बसोबास गरिरहेका महिलाहरुको जिवनमा केहि सुधार भएको छ। हिजोको दिनमा महिनावारी हुँदा गोठ वा छुट्टै छाउपडी गोठमा बस्न बाध्य पार्ने त्यो समाजका महिला आज सरसफाई गरेर घरभित्रै बस्ने गरेका छन् । यस्तै हिजो चुलोचौको र घरधन्दामै व्यस्त रहने महिला आज त्यो स्तरबाट माथि उठि ठूला ठूला जिम्मेवार पोष्टमा जागिर खाने भएका छन् । हिजो आफुले भोगेका शारीरिक र मानिसक समस्याहरुलाई खुलेर राख्न नसक्ने तिनै महिला आज आफ्नो अधिकार माग्न थालेका छन्। समाजको हरेक क्षेत्रमा भएको परिवर्तनले गर्दा आज महिलाहरु घरदेखि समाज, समुदाय र राष्ट्रसम्ममा नै आफ्नो पहुँच पुऱ्याउन सफल भएकाछन् । हिजो लुकेर बोल्न लाज मानेर बस्ने तिनै महिला आज देशका नेता भएर देश हाक्ने भएका छन् । हिजो हामीले घर सम्हाल्नुपर्छ, घरको कामकाजमै व्यस्त रहनु पर्छ, चुलोचौको, केटाकेटीको पालनपोषण र श्रीमान्को ज्ञान पालन गर्नुपर्छ भन्दै सन्देश दिने यहि समाजका महिला आज पुरुष सरह सम्मान हक र अधिकार मागी सम्पूर्ण क्षेत्रमा अघि बढेका छन् आज तिनै महिला हामीले घरायसी काममा मात्र हैन समाज, समुदाय, देश र राष्ट्रमा पनि हामीले केही गर्नुपर्छ भन्ने भावनाका साथ आज शिक्षिका, प्रशासनिक, राजनीतिज्ञ, कानून समाजसेवी हरेक क्षेत्रमा अघि बढिरहेका छन जुन परिवर्तनशिल समाजको कारणले गर्दा महिलाहरु अघि बढ्न सफल भएका छन्।

कविता

शिर्षक

– गोविन्द अर्याल
B.Pharm, 2nd Sem., CCT

नेपालमा चलेका थिए बन्धुकका गोली हजुर .....
बन्छ नेपाल बन्छ नेपाल भन्दै थिए भोली हजुर

संविधान बनाउनलाई चाईयो भन्दै संविधान सभामा...
जनताका चोज थुत्न आएका थिए टोली हजुर

नेपाललाई सभ्य अव बनाउछु म भनीकन ...
मिठा मिठा भाषण संगै तरदैथिए खोली हजुर ...

मिठा भाषण प्रलोभनको झुटा आसा देखाएर
बिजय बनी रमाई रमाई खेल्दै थिए होली हजुर

जो जहाँ पुगे पनि दुखै दुख छ नेपालीलाई ...
गणतन्त्र आएपनि फेरियन चोली हजुर

आफ्नो आफ्नो सत्तामा पुगेपछि नेताहरु
कति चाडै फेरि सकेका पहिलेका ति बोली हजुर

बत्तिस लक्षणयुक्त के-के पर्दछन ?

Yubaraj Regmi.....✍
B.Pharm, 6th Sem, CCT

१. सम्पूर्ण शरीर तेजोमय वृतले युक्त हुनु।
२. बतीस वटा दाँग हुनु।
३. स्वच्छ र परस्परमा मिलेका दाँत हुनु।
४. सात प्रकारले शरी सुवासित हुनु।
५. भँगेराको जस्तो स्वर हुनु।
६. शुद्ध सुनजस्तो प्रदीप्त शरीर हुनु।
७. शरीरमा थोरै र परस्पर नटासिएका नरम र दाहिन तिर धुमेका रौं हुनु।
८. छाला नरम हुनु, वृद्धवस्थामा पनि युगको जस्तै श्री हुनु।
९. बंगारा सुन्दर र स्वच्छ हुनु।
१०. नीलमणि जस्तो काला र टल्कने केश हुनु।
११. पाखुरा लामा हुनु।
१२. शंख समान घाटी हुनु।
१३. शरीरको माथिल्लो भाग सिंहको जस्तो सलक्क परेको हुनु।
१४. दुई आँखीभौंका बीच कोमल रंगका जस्ता हुनु।
१५. आँखीभौं साँढेका जस्ता र नीलकमल रंगका जस्ता हुनु।
१६. विभिन्न सुक्ष्म स्वाद लिने शक्ति हुनु।
१७. औंला लामालामा हुनु।
१८. पगरीको जस्तो मिलेको र राम्रो/लामो कपाल हुनु।
१९. औंलाका कापामा मासु बढ्ता हुनु र औंला जोड्दा टम्म मिलेको हुनु।
२०. विष्णु भगवानको जस्तो दृढ स्वभाव हुनु।
२१. पद्मासनमा बस्दा वृताकार आसन हुनु।
२२. पाखुरा राम्ररी फर्कने र पातलो एवं तलसम्म पुग्ने हुनु।
२३. व्याग्रोध परिमण्डल हुनु।
२४. उज्ज्वल र छिद्र नभएका दन्तपंक्ति हुनु।
२५. सिंहको जस्तो सोझो चिउँडो हुनु।
२६. शरीरमा विभिन्न अंग सुसंगठित हुनु।
२७. हरिणका जस्ता फिला हुनु।
२८. भगवान् ब्रह्माको जस्तो मौलिक र ज्ञानपूर्ण वाणी हुनु।
२९. जिब्रो लामो हुनु।
३०. काँध पृष्ट चौडा र गोलो हुनु।
३१. प्रवल र प्रज्वल व्यक्तित्व हुनु।
३२. गुप्ताङ्गहरु हात्तीका अण्डाकोष जस्तौ गुप्त भएको हुनु र कछुवा आकारको यौनी भाग हुनु।

गजल...

- Sushila Khatri

तिम्रो धेरै माँया लाग्छ तिम्ले डाँडाकाटे पनि
मलाई छाडी पराईसँग माँयाप्रेम गासेपनि।

आँखाको नानीमा तिमी रातको सपनीमा तिमी
हर धड्कनमा तिमी अन्तै मुटु साटेपनि।

हाँसी हाँसी बाच्नु तिमी म रोएर बाँची दिउला
बाँच्नै पर्दो रहेछ आखिर मान्छेको मन फाटेपनि।

धरो धर्म तिमी बाहेक मेरो कोही छैन भनी
नढाट्नु है अरुलाई मलाई तिमीले ढाटे पनि।

लुम्बिनी सिटी अस्पतालका उपलब्ध सेवा तथा सुबिधाहरू :

- ल्याप्रोस्कोपीक सर्जरीको माध्यमबाट दुरबिनको सहायता लिएर चिरफार नगरी पित्त थैली, पिसाब थैली, मृगौला र पिसाब नलीबाट पत्थरी निकाल्नुका साथै स्तन लगायत शरिरका बिभिन्न अंगमा देखिने गाँठा गुठी, हाड्रोसिल, हर्निया र पाइल्सको सफल अप्रेशन गरिन्छ।
- मधुमेह, उच्च रक्तचाप, छाती तथा मुटुरोग, पेटको रोग, पक्षघातको बिशेषज्ञबाट सफल उपचार गरिन्छ।
- अत्याधुनिक C-Arm मेशिनको सहायताबाट हाड जोर्नीको सम्पूर्ण अप्रेशन गरिन्छ । साथमा नसा सम्बन्धि बिशेषज्ञबाट उपचार गरिन्छ।
- अन्ट्रासाउण्ड (भिडियो एक्सरे)
- कम्प्युटराईज्ड एक्सरे
- आधुनिक मेशिनबाट फिजियो थेरापी
- ईको कार्डीयोग्राफी तथा ईण्डोस्कोपी सेवाहरु उपलब्ध छन।

सम्पर्क :

लुम्बिनी सिटी अस्पताल तथा मेडिकल साइन्स प्रा. लि.

बुटवल-१०, श्रवणपथ (सुख्खानगर जाने बाटोमा)

फोन : ०७१-५५१५५७, ५५१५५८

छपाईको साथी
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बुटवल-८, पुरानो बसपार्क (यातायात मजदुर संघको भवनमा)
फोन : ०७१-५४५४६३, ५५०२५३, मो: ५८५७०३५३८०, E-mail: ideapressbtl@gmail.com
हामी कहाँ
ग्राफिक डिजाइनिङ्ग • लोगो डिजाइनिङ्ग • अफसेट प्रिन्ट • कलर प्रिन्ट • स्क्रिन प्रिन्ट • नाइनल छाप • प्रिइङ्क छाप
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• पोष्टर-पम्पलेट छपाइ र डेस्कटप सेवाका साथै छपाइ सम्बन्धी सम्पूर्ण काम गरिन्छ।

Mathematics and Psychology

Ramesh K.C.....
B.Pharm, 6th Sem, CCT

Psychology is the scientific study of the relationship between mental process, emotions and behaviours. Mathematics and psychology are linked in three major ways; first psychologists study mathematics cognition i.e the brain development acquisition and application of mathematical skill. Second, psychologists investigate people's feelings and attitudes regarding mathematics. Third, psychologists use mathematics, particularly statistics, as a professional tool to quantify and analyze their scientific findings, psychologist working in the field of mathematical cognition study how humans process and interpret.

Similarly, mathematical symbols, skills and strategies help to solve mathematical problems psychologically. For e.g. these skills are particular important for so called "word" problems, where written description must be translated into equation. Most students consider "word" problems more difficult to solve than other types of problems. This is because "word" problems require a variety of skills from the brain, including the ability to read and comprehend the meaning and context of the words, the ability to perceive and define the mathematical symbols to unknown variables and finally, the ability to apply problems solving strategies and calculate the correct answer.

Psychologists also study how people feel about mathematics, because a person's feelings about a subject influence their willingness to learn and use it. It includes one of the vital factors i.e, Math phobia or mat anxiety.

Math phobia is a fear of mathematics. People with math phobia become so uncomfortable and anxious when he/ she confronted with mathematical task, that they can experience physical symptoms including increasing heart beat rate, nervousness and fast breathing that prevents them for concentrating and learning.

Finally, mathematics psychology are not only related to school and teachers but it has a wide field , such as it benefits scientists and doctors studying the brain, it helps educators devlop better teaching method for mathematics and plays a crucial role to the development of "Smart Computers", neutral network, fuzzy, logic, robots and artificial intelligence.

List of Narcotics and Psychotropic Substances identified for Import and Use by DDA

Narcotics

1. Codeine
2. Dextropropoxyphene
3. Ethylmorphine
4. Etorphine
5. Fentanyl
6. Methadone
7. Morphine
8. Phethidene
9. Pholcodine

Psychotropic Substances

Schedule III

1. Buprenorphine
2. Glutethiamide
3. Pentazocine
4. Pentobarbital

Schedule IV

1. Alprazolam
2. Chlordiazepoxide
3. Clobazam
4. Clonazepam
5. Diazepam
6. Flurazepam
7. Lorazepam
8. Medazepam
9. Meprobamate
10. Midazolam
11. Nitrazepam
12. Oxazepam
13. Oxazolam
14. Phenobarbital
15. Phentermine
16. Prazepam
17. Triazolam
18. Zolpidem

LIST OF NEPALESE PHARMACEUTICALS INDUSTRIES

1. Alive Pharmaceuticals Pvt. Ltd.
2. Alliance Pharmaceuticals Pvt. Ltd.
3. Amtech Med Pvt. Ltd.
4. Amie Pharmaceuticals Pvt. Ltd.
5. Arya Pharma Lab. Pvt. Ltd.
6. Apex Pharmaceuticals Pvt. Ltd.
7. Asian Pharmaceuticals Pvt. Ltd.
8. Birat Pharma Lab. Pvt. Ltd.
9. Chemidrug Industries Pvt. Ltd.
10. CTL Pharmaceuticals Pvt. Ltd.
11. Curex Pharmaceuticals Pvt. Ltd.
12. Deurali Janta Pharma P. Ltd.
13. Denium Laboratories Pvt. Ltd.
14. Dingla Pharmaceuticals Pvt. Ltd.
15. Everest Pharmaceuticals Pvt. Ltd.
16. Florid Laboratory Pvt. Ltd.
17. G.D Pharmaceuticals Pvt. Ltd.
18. Genetica Laboratory Pvt. Ltd.
19. Hukam Pharmaceuticals Pvt. Ltd.
20. Lomus Pharmaceuticals Pvt. Ltd.
21. Livecare Pharmaceuticals Pvt. Ltd.
22. Mark Formulation Pvt. Ltd.
23. Magnus Pharma Pvt. Ltd.
24. Maruti Pharma Pvt. Ltd.
25. Manoj Pharmaceuticals Works
26. Medivet Pharmaceuticals Lab. Pvt. Ltd.
27. Milan Pharmaceuticals Pvt. Ltd.
28. National Healthcare Pvt. Ltd.
29. Nepal Pharmaceuticals Lab. Pvt. Ltd.
30. Nepal Ausadhi Limited
31. Nova Genitica Pvt. Ltd.
32. Omnica Laboratories Pvt. Ltd.
33. Ohm Pharmaceuticals Laboratory (P) Ltd.
34. Panas Pharmaceuticals Pvt. Ltd.
35. Pharmaco Industries Pvt. Ltd.
36. Quest Pharmaceuticals Pvt. Ltd.
37. Qmed Formulation Pvt. Ltd.
38. Serene Pharmaceuticals Pvt. Ltd.
39. Simca Laboratories Pvt. Ltd.
40. Siddartha Pharmaceuticals Pvt. Ltd.
41. Shiv Pharmaceuticals Lab. Pvt. Ltd.
42. SR Drugs Laboratories Pvt. Ltd.
43. Summy Pharmaceuticals Pvt. Ltd.
44. Time Pharmaceuticals Pvt. Ltd.
45. Taurus Pharmaceuticals Pvt. Ltd.
46. Universal Formulation Pvt. Ltd.
47. Unique Pharmaceuticals Pvt. Ltd.
48. Vijayadeep Laboratories Pvt. Ltd.
49. Vijayadeep Pharmaceuticals Pvt. Ltd.

The Upcoming Pharmaceutical Industries Registered in DDA are:

1. Apple International Pharmaceuticals (P) Ltd.
2. Bhanu Pharmaceuticals Pvt. Ltd
3. Glacier Pharmaceuticals Pvt. Ltd
4. Hestar Biosciences
5. Himalaya Parenterals Pvt Ltd.
6. Innovative Pharmaceuticals Pvt. Ltd
7. Kasturi Pharmaceuticals Ltd.
8. Kevin Formulations Pvt.Ltd.
9. Numarks Pharmaceuticals Pvt. Ltd
10. Peace Pharmaceuticals Pvt. Ltd
11. Rhododendron Pharmaceuticals (P) Ltd.
12. Radient Formulation Pvt.Ltd.
13. Samar Pharmaceuticals Pvt. Ltd
14. Sky International Pharmaceuticals (P) Ltd.
15. Vega Pharmaceuticals Pvt. Ltd.

Drugs and Specific Antidotes

Agent/Drug	Antidote
Acetaminophen/Tylenol/Paracetamol	Acetylcysteine (Mucomyst)
Antcholinesterase	Atrophine sulfate or pralidoxime
Anticholinergics	Physostigmine
Benzodiazepines	Flumazenil
Beta blockers	Glucagon
Calcium channel blockers	Glucagon
Coumadin/Warfarin	Phytonadione (Vitamin K.)
Cyanide	Amyl nitrate, sodium nitrate, sodium thiosulfate
Cyclophosphamide	Mesna
Digoxin	Digibind, Digoxine immune fab
Dopamine	Phentolamie (Regitine)
Extrapyramidal symptoms (EPS)	Diphenhydramine (Benadryl)
Ethylene glycol	Fomepizole
Fluorouracil	Leucoverin calcium
Heparin	Protamine sulfate
Insulin reaction	Glucose (Dextrose 50%)
Iron	Deferoxamine
Lead	Dimercapol, edetate calcium, disodium,
Methotrexate	Leucovorin calcium
Narcotics	Naloxone (Narcan)
Neuromuscular blockade (paralytics)	Anticholinesterase agents
Opioid analgesics	Nalmefene or naloxone
Potassium	Albuterol inhaler, insulin & glucose, $NaHCO_3$, kayexalate
Tricyclic antidepressants	Phyostigmine or $NaHCO_3$

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सुपथ तथा गुणस्तरीय

विषेशताहरू

- बुटवलमा २ स्थानमा शोरुरुम भएको
- आफ्नै अत्याधुनिक कम्प्यूटर मर्मत ल्याब भएको
- २४ X ७ होम सर्भिस भएको
- संस्थाहरुको आफ्नै ठाउहरुमा गएर काम गरीने, कम्प्यूटर तथा सो संग सम्न्धित सम्पूर्ण कार्यहरु गरीने

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(पोखरा विश्वविद्यालयबाट सम्बन्ध प्राप्त)

उपलब्ध विशेषज्ञ सेवाहरू

- नशा तथा मनोरोग सेवा
- हाड, जोर्नी तथा नशा रोग सेवा
- जनरल/ल्याप्रोस्कोपिक सर्जन सेवा
- जनरल फिजिसियन सेवा
- रेडियोलोजिस्ट सेवा
- नाक, कान घाँटी रोग सेवा
- बालरोग सेवा
- एनेस्थेस्योलोजिस्ट सेवा
- स्त्री तथा प्रसुती रोग सेवा
- दन्त रोग सेवा

२४ घण्टै उपलब्ध सेवाहरू

- आकस्मिक कक्ष
- आई.सी.यू. सेवा
- प्रयोगशाला
- ई.सि.जी.
- एक्स-रे (डिजिठल)/CT Scan
- एम्बुलेन्स
- फार्मेसी सेवा
- प्रसुती सेवा

अन्य सुविधाहरू :

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- फिजियोथेरासी (Physiotherapy)
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Crimson College of Technology (Pokhara University)
Manigram, Rupandehi, Nepal
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